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ANNUAL

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THE HAWAIIAN ANNUAL

THE REFERENCE
BOOK OF HAWAII



Issued Regularly
since 1875



1915



THOS. G. THURM
Publisher
Honolulu T. H.



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HAWAIIAN Almanac and Annual

FOR

1915

THE REFERENCE BOOK OF INFORMATION AND STATISTICS

RELATING TO THE TERRITORY OF HAWAII, OF VALUE TO
MERCHANTS, TOURISTS AND OTHERS

THOS. G. THRUM,
Compiler and Publisher.

Forty-First Year of Publication

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HONOLULU:
1914

Counting House 1915 Calendar 1915

	SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY		SUNDAY	MONDAY	TUESDAY	WEDNESDAY	THURSDAY	FRIDAY	SATURDAY

	3	4	5	6	7	8	9		4	5	6	7	8	9	10
JAN.	10	11	12	13	14	15	16	JULY	11	12	13	14	15	16	17
	17	18	19	20	21	22	23		18	19	20	21	22	23	24
	24	25	26	27	28	29	30		25	26	27	28	29	30	31
	31	...	...	...	...	...	...		...	...	...	...	...	...	...
	...	1	2	3	4	5	6		1	2	3	4	5	6	7
FEB.	7	8	9	10	11	12	13	AUG.	8	9	10	11	12	13	14
	14	15	16	17	18	19	20		15	16	17	18	19	20	21
	21	22	23	24	25	26	27		22	23	24	25	26	27	28
	28	...	...	...	...	...	...		29	30	31	...	...	...	...
	...	1	2	3	4	5	6		...	...	...	1	2	3	4
MAR.	7	8	9	10	11	12	13	SEPT.	5	6	7	8	9	10	11
	14	15	16	17	18	19	20		12	13	14	15	16	17	18
	21	22	23	24	25	26	27		19	20	21	22	23	24	25
	28	29	30	31	...	...	...		26	27	28	29	30	...	...
	...	...	...	...	1	2	3		...	...	...	...	...	1	2
	4	5	6	7	8	9	10		3	4	5	6	7	8	9
APR.	11	12	13	14	15	16	17	OCT.	10	11	12	13	14	15	16
	18	19	20	21	22	23	24		17	18	19	20	21	22	23
	25	26	27	28	29	30	...		24	25	26	27	28	29	30
	...	...	...	...	...	...	1		31	...	...	...	...	...	...
	2	3	4	5	6	7	8		...	1	2	3	4	5	6
MAY	9	10	11	12	13	14	15	NOV.	7	8	9	10	11	12	13
	16	17	18	19	20	21	22		14	15	16	17	18	19	20
	23	24	25	26	27	28	29		21	22	23	24	25	26	27
	30	31	...	...	...	...	...		28	29	30	...	...	...	...
	...	...	1	2	3	4	5		...	...	...	1	2	3	4
	6	7	8	9	10	11	12		...	...	...	...	...	...	...
JUNE	13	14	15	16	17	18	19	DEC.	5	6	7	8	9	10	11
	20	21	22	23	24	25	26		12	13	14	15	16	17	18
	27	28	29	30	...	...	...		19	20	21	22	23	24	25
		26	27	28	29	30	31	...

Thos. G. Thrum
Researcher and Publisher

THE HAWAIIAN ANNUAL
HONOLULU, T. H.

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HAWAIIAN ANNUAL CALENDAR FOR 1915.

Second half of the seventeenth year and first half of the eighteenth year since annexation of Hawaii with the United States.

Twentieth year since the downfall of the Monarchy.

The 137th year since the discovery of the Hawaiian Islands by Captain Cook.

Holidays Observed at the Hawaiian Islands.

*New Year	Jan. 1	*American Anniversary.....	July 4
Chinese New Year.....	Feb. 13	*Labor Day (First Monday)....	
*Washington's Birthday...	Feb. 22	.....	Sept. 6
Good Friday	April 2	*Regatta Day (Third Saturday	
*Decoration Day.....	May 30	day)	Sept. 21
Kamehameha Day	June 11	Thangsgiving Day.....	Nov. 25
*Birthday Hawn. Republic..	July 4	*Christmas Day.....	Dec. 25

Those distinguished by the Asterisk have been established by law.

Church Days.

Epiphany	Jan. 6	Whit Sunday	May 23
Ash Wednesday	Feb. 17	Trinity Sunday	May 30
First Sunday in Lent....	Feb. 21	Corpus Christi	June 3
Good Friday	April 2	Advent Sunday	Nov. 28
Easter Sunday	April 4	Christmas	Dec. 25
Ascension Day	May 13		

Eclipses in 1915.

(Courtesy of Prof. J. S. Donaghho, College of Hawaii.)

In the year 1915 there will be two eclipses, both of the sun:

I—An anular eclipse of the sun, February 13th, invisible in Hawaii.

II—An anular eclipse of the sun, August 10th, visible in Hawaii as a partial eclipse:

Beginning of the eclipse.....10h.36m.46s. a. m.

End of the eclipse..... 1h.53m.25s. p. m.

FIRST QUARTER, 1915.

JANUARY.				FEBRUARY				MARCH			
D.		H.M.		D.		H.M.		D.		H.M.	
1	Full Moon..	1.50.5	a.m.	6	Last Quar.	6.40.9	p.m.	1	Full Moon..	8. 2.6	a.m.
8	Last Quar..	10.42.6	a.m.	13	New Moon.	6. 1.0	p.m.	8	Last Quar..	1.57.6	a.m.
15	New Moon..	4 11.9	a.m.	21	First Quar..	4.28.3	p.m.	15	New Moon.	9.12.3	a.m.
22	First Quar..	7.02.3	p.m.					23	First Quar.	0.18.0	p.m.
30	Full Moon..	6.11.3	p.m.					30	Full Moon.	7. 7.7	p.m.

Day of Mo.	Day of Wk.	Sun Rises...	Sun Sets....	Day of Mo.	Day of Wk.	Sun Rises...	Sun Sets....	Day of Mo.	Day of Wk.	Sun Rises...	Sun Sets....
		H.M.	H.M.			H.M.	H.M.			H.M.	H.M.
1	Fri....	6 38 1	5 30 0	1	Mon...	6 37 4	5 50 5	1	Mon...	6 20 5	6 4 5
2	Sat...	6 38 4	5 30 6	2	Tues..	6 37 1	5 51 1	2	Tues..	6 19 7	6 4 9
3	SUN...	6 38 6	5 31 3	3	Wed...	6 36 7	5 51 7	3	Wed...	6 18 9	6 5 3
4	Mon...	6 38 9	5 31 9	4	Thurs.	6 36 3	5 52 3	4	Thurs.	6 18 1	6 5 7
5	Tues...	6 39 1	5 32 6	5	Fri....	6 35 9	5 52 9	5	Fri....	6 17 3	6 6 1
6	Wed...	6 39 3	5 33 3	6	Sat...	6 35 4	5 53 5	6	Sat...	6 16 4	6 6 5
7	Thurs.	6 39 5	5 33 9	7	SUN...	6 34 9	5 54 1	7	SUN...	6 15 6	6 6 8
8	Fri....	6 39 7	5 34 6	8	Mon...	6 34 4	5 54 7	8	Mon...	6 14 8	6 7 2
9	Sat...	6 39 9	5 35 3	9	Tues...	6 33 9	5 55 2	9	Tues...	6 13 9	6 7 6
10	SUN...	6 40 1	5 36 0	10	Wed...	6 33 4	5 55 7	10	Wed...	6 13 0	6 7 9
11	Mon...	6 40 2	5 36 7	11	Thurs.	6 32 9	5 56 2	11	Thurs.	6 12 1	6 8 3
12	Tues..	6 40 3	5 37 3	12	Fri....	6 32 3	5 56 7	12	Fri....	6 11 3	6 8 6
13	Wed...	6 40 4	5 38 0	13	Sat...	6 31 7	5 57 2	13	Sat...	6 10 4	6 8 9
14	Thurs.	6 40 4	5 38 7	14	SUN...	6 31 1	5 57 7	14	SUN...	6 9 5	6 9 3
15	Fri....	6 40 4	5 39 4	15	Mon...	6 30 5	5 58 2	15	Mon...	6 8 6	6 9 6
16	Sat...	6 40 4	5 40 1	16	Tues...	6 29 9	5 58 7	16	Tues..	6 7 7	6 9 9
17	SUN...	6 40 4	5 40 8	17	Wed...	6 29 2	5 59 2	17	Wed...	6 6 8	6 10 2
18	Mon...	6 40 3	5 41 4	18	Thurs.	6 28 6	5 59 7	18	Thur...	6 5 9	6 10 5
19	Tues..	6 40 3	5 42 1	19	Fri....	6 28 0	6 0 2	19	Fri....	6 4 9	6 10 8
20	Wed...	6 40 2	5 42 8	20	Sat...	6 27 3	6 0 7	20	Sat...	6 4 0	6 11 2
21	Thurs.	6 40 1	5 43 4	21	SUN...	6 26 6	6 1 2	21	SUN...	6 3 1	6 11 5
22	Fri....	6 39 9	5 44 1	22	Mon...	6 26 0	6 1 6	22	Mon...	6 2 2	6 11 8
23	Sat...	6 39 8	5 44 8	23	Tues...	6 25 2	6 2 1	23	Tues...	6 1 3	6 12 1
24	SUN...	6 39 6	5 45 4	24	Wed...	6 24 5	6 2 5	24	Wed..	6 0 4	6 12 4
25	Mon...	6 39 5	5 46 1	25	Thurs.	6 23 7	6 2 9	25	Thurs.	5 59 5	6 12 8
26	Tues...	6 39 3	5 46 7	26	Fri....	6 22 9	6 3 3	26	Fri....	5 58 5	6 13 1
27	Wed...	6 39 0	5 47 4	27	Sat...	6 22 1	6 3 7	27	Sat...	5 57 6	6 13 4
28	Thurs.	6 38 8	5 48 0	28	SUN...	6 21 3	6 4 1	28	SUN...	5 56 7	6 13 7
29	Fri....	6 38 5	5 48 6					29	Mon...	5 55 7	6 14 0
30	Sat...	6 38 1	5 49 2					30	Tues..	5 54 8	6 14 3
31	SUN...	6 37 8	5 49 9					31	Wed...	5 53 9	6 14 6

OAHU'S FLOWER.—As many countries have their national flower and different states their floral emblem, so the several islands of this group have each their own. The representative flower of Oahu is the yellow Ilima, a *Sida* of several varieties, two of which were cultivated by the Hawaiians for lei making with which to decorate themselves. It has sometimes been referred to as the royal flower. Of late years paper imitation ilima leis have rendered the natural flower wreaths a rarity.

SECOND QUARTER, 1915.

APRIL				MAY				JUNE			
D.		H. M.		D.		H. M.		D.		H. M.	
6	Last Quar...	9.42.4	a.m.	5	Last Quar...	6.52.6	p.m.	4	Last Quar...	6.2.1	a.m.
14	New Moon...	1.5.7	a.m.	13	New Moon...	5.1.0	p.m.	12	New Moon...	8.27.3	a.m.
22	First Quar...	5.9.1	a.m.	21	First Quar...	6.20.0	p.m.	20	First Quar...	3.54.2	a.m.
29	Full Moon...	3.49.3	a.m.	28	Full Moon...	11.2.9	a.m.	26	Full Moon...	5.57.4	p.m.

Day of Mo.	Day of Wk.	Sun Rises...	Sun Sets...	Day of Mo.	Day of Wk.	Sun Rises...	Sun Sets...	Day of Mo.	Day of Wk.	Sun Rises...	Sun Sets...
		H.M.	H.M.			H.M.	H.M.			H.M.	H.M.
1	Thurs.	5 53 0	6 14 6	1	Sat...	5 29 0	6 25 1	1	Tues...	5 17 2	6 38 1
2	Fri...	5 52 1	6 15 2	2	SUN...	5 28 4	6 25 5	2	Wed...	5 17 1	6 38 5
3	Sat...	5 51 2	6 15 5	3	Mon...	5 27 8	6 25 9	3	Thurs.	5 17 1	6 38 9
4	SUN...	5 50 3	6 15 9	4	Tues...	5 27 1	6 26 3	4	Fri...	5 17 0	6 39 3
5	Mon...	5 49 5	6 16 2	5	Wed...	5 26 5	6 26 7	5	Sat...	5 17 0	6 39 6
6	Tues...	5 48 6	6 16 5	6	Thurs.	5 26 0	6 27 1	6	SUN...	5 17 0	6 40 0
7	Wed...	5 47 7	6 16 8	7	Fri...	5 25 4	6 27 5	7	Mon...	5 17 0	6 40 4
8	Thurs.	5 46 8	6 17 1	8	Sat...	5 24 9	6 27 9	8	Tues...	5 17 0	6 40 8
9	Fri...	5 45 9	6 17 4	9	SUN...	5 24 4	6 28 4	9	Wed...	5 17 0	6 41 1
10	Sat...	5 45 0	6 17 7	10	Mon...	5 23 9	6 28 8	10	Thurs.	5 17 0	6 41 5
11	SUN...	5 44 2	6 18 0	11	Tues...	5 23 5	6 29 2	11	Fri...	5 17 0	6 41 8
12	Mon...	5 43 4	6 18 3	12	Wed...	5 23 0	6 29 6	12	Sat...	5 17 1	6 42 1
13	Tues...	5 42 6	6 18 7	13	Thurs.	5 22 6	6 30 1	13	SUN...	5 17 2	6 42 4
14	Wed...	5 41 7	6 19 0	14	Fri...	5 22 1	6 30 5	14	Mon...	5 17 4	6 42 7
15	Thurs.	5 40 9	6 19 3	15	Sat...	5 21 7	6 30 9	15	Tues...	5 17 5	6 43 0
16	Fri...	5 40 1	6 19 6	16	SUN...	5 21 3	6 31 3	16	Wed...	5 17 7	6 43 3
17	Sat...	5 39 3	6 20 0	17	Mon...	5 21 0	6 31 8	17	Thurs.	5 17 9	6 43 5
18	SUN...	5 38 5	6 20 3	18	Tues...	5 20 6	6 32 2	18	Fri...	5 18 0	6 43 8
19	Mon...	5 37 6	6 20 7	19	Wed...	5 20 2	6 32 6	19	Sat...	5 18 2	6 44 1
20	Tues...	5 36 8	6 21 1	20	Thurs.	5 19 9	6 33 0	20	SUN...	5 18 3	6 44 3
21	Wed...	5 36 0	6 21 4	21	Fri...	5 19 6	6 33 5	21	Mon...	5 18 5	6 44 5
22	Thurs.	5 35 2	6 21 8	22	Sat...	5 19 3	6 33 9	22	Tues...	5 18 7	6 44 7
23	Fri...	5 34 5	6 22 1	23	SUN...	5 19 0	6 34 4	23	Wed...	5 19 0	6 44 9
24	Sat...	5 33 8	6 22 5	24	Mon...	5 18 7	6 34 8	24	Thurs.	5 19 2	6 45 1
25	SUN...	5 33 1	6 22 9	25	Tues...	5 18 4	6 35 3	25	Fri...	5 19 5	6 45 2
26	Mon...	5 32 4	6 23 2	26	Wed...	5 18 1	6 35 7	26	Sat...	5 19 8	6 45 3
27	Tues...	5 31 7	6 23 6	27	Thurs.	5 17 9	6 36 1	27	SUN...	5 20 1	6 45 5
28	Wed...	5 31 0	6 24 0	28	Fri...	5 17 8	6 36 5	28	Mon...	5 20 4	6 45 5
29	Thurs.	5 30 3	6 24 4	29	Sat...	5 17 6	6 39 9	29	Tues...	5 20 7	6 45 7
30	Fri...	5 29 7	6 24 7	30	SUN...	5 17 4	6 37 3	30	Wed...	5 21 0	6 45 8
				31	Mon...	5 17 3	6 37 7				

HAWAII'S FLOWER.—The emblem of the Island of Hawaii is the Lehua, a dark rather than a brilliant red, with varieties also in yellow, whose tassel flowers lent themselves readily for decorative leis for all occasions. It has also been called Hawaii's national flower, though this may have been a passing fancy from its predominance in former years. That it has a warm place in the regard of the race their song "Sweet Lei Lehua" may be said to attest.

THIRD QUARTER, 1915.

JULY					AUGUST					SEPTEMBER				
D.		H.M.			D.		H.M.			D.		H.M.		
3	Last Quar..	7.24.2	p.m.		2	Last Quar..	10.57.3	a.m.		1	Last Quar...	4.26.6	a.m.	
11	New Moon..	11. 0.8	p.m.		10	New Moon..	0.22.4	p.m.		9	New Moon...	0.22.7	p.m.	
19	First Quar.	10.38.8	a.m.		17	First Quar..	3.47.4	p.m.		15	First Quar..	8.51.3	p.m.	
26	Full Moon..	1.41.0	a.m.		24	Full Moon..	11.10 5	a.m.		22	Full Moon..	11.05.2	p.m.	
										30	Last Quar..	11.14.3	p.m.	
Day of Mo..	Day of Wk..	Sun Rises..	Sun Sets...		Day of Mo..	Day of Wk..	Sun Rises..	Sun Sets...		Day of Mo..	Day of Wk..	Sun Rises..	Sun Sets...	
		H.M.	H.M.				H.M.	H.M.				H.M.	H.M.	
1	Thurs.	5 21 3	6 45 8	1	SUN..	5 33 2	6 38 7	1	Wed..	5 43 4	6 15 9			
2	Fri...	5 21 6	6 45 9	2	Mon..	5 33 6	6 38 1	2	Thurs.	5 43 6	6 15 0			
3	Sat...	5 22 0	6 45 9	3	Tues...	5 34 0	6 37 6	3	Fri...	5 43 9	6 14 1			
4	SUN..	5 22 3	6 45 9	4	Wed..	5 34 3	6 37 0	4	Sat...	5 44 1	6 13 2			
5	Mon..	5 22 7	6 45 8	5	Thurs.	5 34 7	6 36 4	5	SUN..	5 44 4	6 12 3			
6	Tues..	5 23 0	6 45 8	6	Fri....	5 35 1	6 35 9	6	Mon...	5 44 6	6 11 4			
7	Wed...	5 23 4	6 45 8	7	Sat...	5 35 5	6 35 3	7	Tues...	5 44 9	6 10 4			
8	Thurs.	5 23 7	6 45 7	8	SUN...	5 35 8	6 34 6	8	Wed...	5 45 2	6 9 5			
9	Fri...	5 24 1	6 45 6	9	Mon....	5 36 2	6 34 0	9	Thurs.	5 45 4	6 8 5			
10	Sat...	5 24 4	6 45 6	10	Tues...	5 36 6	6 33 3	10	Fri...	5 45 7	6 7 6			
11	SUN...	5 24 8	6 45 5	11	Wed...	5 36 9	6 32 7	11	Sat...	5 46 0	6 6 6			
12	Mon..	5 25 2	6 45 3	12	Thurs.	5 37 2	6 32 0	12	SUN..	5 46 2	6 5 7			
13	Tues..	5 25 6	6 45 2	13	Fri...	5 37 6	6 31 3	13	Mon...	5 46 5	6 4 7			
14	Wed...	5 26 1	6 45 0	14	Sat...	5 37 9	6 30 6	14	Tues...	5 46 7	6 3 7			
15	Thurs.	5 26 5	6 44 8	15	SUN...	5 38 3	6 29 9	15	Wed...	5 46 9	6 2 8			
16	Fri...	5 26 9	6 44 6	16	Mon..	5 38 6	6 29 2	16	Thurs.	5 47 2	6 1 8			
17	Sat...	5 27 3	6 44 4	17	Tues..	5 38 9	6 28 5	17	Fri....	5 47 4	6 0 9			
18	SUN...	5 27 7	6 44 1	18	Wed..	5 39 2	6 27 7	18	Sat...	5 47 7	5 59 9			
19	Mon..	5 28 1	6 43 9	19	Thurs.	5 39 5	6 26 9	19	SUN..	5 47 9	5 59 0			
20	Tues..	5 28 5	6 43 6	20	Fri....	5 39 9	6 26 1	20	Mon...	5 48 2	5 58 0			
21	Wed...	5 28 9	6 43 3	21	Sat...	5 40 2	6 25 3	21	Tues..	5 48 5	5 57 1			
22	Thurs.	5 29 3	6 42 9	22	SUN...	5 40 5	6 24 5	22	Wed...	5 48 7	5 56 1			
23	Fri....	5 29 7	6 42 6	23	Mon..	5 40 8	6 23 7	23	Thurs.	5 49 0	5 55 1			
24	Sat...	5 30 1	6 42 2	24	Tues...	5 41 1	6 22 9	24	Fri...	5 49 2	5 54 2			
25	SUN...	5 30 5	6 41 8	25	Wed...	5 41 4	6 22 0	25	Sat...	5 49 5	5 53 2			
26	Mon...	5 30 9	6 41 4	26	Thurs.	5 41 7	6 21 2	26	SUN..	5 49 8	5 52 3			
27	Tues...	5 31 3	6 41 0	27	Fri....	5 41 9	6 20 3	27	Mon...	5 50 0	5 51 4			
28	Wed...	5 31 7	6 40 6	28	Sat....	5 42 2	6 19 4	28	Tues...	5 50 3	5 50 4			
29	Thurs.	5 32 1	6 40 1	29	SUN...	5 42 5	6 18 6	29	Wed..	5 50 6	5 49 5			
30	Fri....	5 32 4	6 39 7	30	Mon..	5 42 8	6 17 7	30	Thurs.	5 50 9	5 48 6			
31	Sat...	5 32 8	6 39 2	31	Tues...	5 43 1	6 16 8							

MAUI'S FLOWER.—While other islands have favored indigenous products the valley isle, Maui, has chosen the queenly rose as its flower, possibly from the success of its culture on that island, for memories yet cling to the fame of "Rose Ranch," a fame that extended far beyond Hawaiian borders and gives ground for their boastful song "Maui no ka oi"—Maui excels. We look upon Maui's selection of the rose as being later than others in their choice.

FOURTH QUARTER, 1915.

OCTOBER				NOVEMBER				DECEMBER			
D.		H.M.		D.		M. H.		D.		H.M.	
8	New Moon.	11.12.1	a.m.	6	New Moon.	9.22.3	p.m.	6	New Moon.	7.33.7	a.m.
15	First Quar.	3.21.5	a.m.	13	First Quar.	0.33.0	p.m.	13	First Quar.	1.8.4	p.m.
22	Full Moon..	1.45.5	p.m.	21	Full Moon..	7.6.4	a.m.	21	Full Moon.	2.21.3	a.m.
30	Last Quar..	6.09.8	p.m.	29	Last Quar..	11.40.5	a.m.	29	Last Quar..	2.28.8	a.m.

Day of Mo.	Day of Wk.	Sun Rises..	Sun Sets....	Day of Mo.	Day of Wk.	Sun Rises..	Sun Sets....	Day of Mo.	Day of Wk.	Sun Rises..	Sun Sets....
		H.M.	H.M.			H.M.	H.M.			H.M.	H.M.
1	Fri....	5 51 25	47 7	1	Mon..	6 3 25	24 0	1	Wed..	6 21 45	17 3
2	Sat....	5 51 55	46 7	2	Tues..	6 3 75	23 5	2	Thurs.	6 22 05	17 4
3	SUN...	5 51 85	45 8	3	Wed...	6 4 25	23 0	3	Fri....	6 22 75	17 5
4	Mon...	5 52 15	44 9	4	Thurs.	6 4 75	22 5	4	Sat....	6 23 35	17 7
5	Tues...	5 52 45	44 0	5	Fri....	6 5 35	22 0	5	SUN...	6 24 05	17 8
6	Wed...	5 52 75	43 1	6	Sat....	6 5 85	21 6	6	Mon...	6 24 65	18 0
7	Thurs.	5 53 05	42 2	7	SUN...	6 6 45	21 1	7	Tues...	6 25 35	18 3
8	Fri....	5 53 35	41 3	8	Mon...	6 6 95	20 7	8	Wed...	6 25 95	18 6
9	Sat....	5 53 75	40 5	9	Tues..	6 7 55	20 3	9	Thurs.	6 26 55	18 9
10	SUN...	5 54 05	39 6	10	Wed...	6 8 15	20 0	10	Fri....	6 27 15	19 2
11	Mon...	5 54 45	38 8	11	Thurs.	6 8 75	19 6	11	Sat....	6 27 75	19 5
12	Tues...	5 54 75	38 0	12	Fri....	6 9 35	19 3	12	SUN...	6 28 35	19 9
13	Wed...	5 55 15	37 1	13	Sat....	6 9 95	19 0	13	Mon...	6 28 95	20 2
14	Thurs.	5 55 45	36 3	14	SUN...	6 10 55	18 6	14	Tues...	6 29 55	20 6
15	Fri....	5 55 85	35 5	15	Mon...	6 11 25	18 4	15	Wed...	6 30 15	20 9
16	Sat....	5 56 15	34 7	16	Tues...	6 11 85	18 1	16	Thurs.	6 30 75	21 3
17	SUN...	5 56 55	33 9	17	Wed...	6 12 45	17 9	17	Fri....	6 31 25	21 8
18	Mon...	5 56 95	33 2	18	Thurs.	6 13 05	17 6	18	Sat....	6 31 85	22 2
19	Tues...	5 57 35	32 4	19	Fri....	6 13 65	17 4	19	SUN...	6 32 35	22 7
20	Wed...	5 57 65	31 6	20	Sat....	6 14 25	17 3	20	Mon...	6 32 85	23 1
21	Thurs.	5 58 15	30 9	21	SUN...	6 14 95	17 2	21	Tues...	6 33 35	23 6
22	Fri....	5 58 55	30 2	22	Mon...	6 15 55	17 1	22	Wed...	6 33 85	24 1
23	Sat....	5 58 95	29 5	23	Tues...	6 16 25	17 0	23	Thurs.	6 34 45	24 7
24	SUN...	5 59 45	28 8	24	Wed...	6 16 85	17 0	24	Fri....	6 34 95	25 2
25	Mon...	6 59 85	28 2	25	Thurs.	6 17 45	17 0	25	Sat....	6 35 35	25 7
26	Tues...	6 0 35	27 5	26	Fri....	6 18 15	17 0	26	SUN...	6 35 85	26 3
27	Wed...	6 0 85	26 9	27	Sat....	6 18 75	17 0	27	Mon...	6 36 35	26 9
28	Thurs.	6 1 35	26 3	28	SUN...	6 19 45	17 0	28	Tues...	6 36 65	27 5
29	Fri....	6 1 75	25 7	29	Mon...	6 20 05	17 1	29	Wed...	6 36 95	28 1
30	Sat....	6 2 25	25 1	30	Tues...	6 20 75	17 2	30	Thurs.	6 37 35	28 7
31	SUN...	6 2 75	24 5					31	Fri....	6 37 55	29 3

KAUAI'S FLOWER.--The "garden island" indicates by its selection of the Mokihauna as its emblem a weakness for fragrance rather than attraction of color, for its greenish-white blossoms are far from showy, but these, as also the capsules when bruised, emit a strong odor of anise. While the mokihauna is found in several varieties of *Pelea* throughout the group in small trees and shrubs, the choice is said to belong to the island which has honored it by adoption. Molokai's emblem is the Kukui.

INTER-ISLAND DISTANCES BY SEA IN SEA MILES.

AROUND OAHU FROM HONOLULU—ESPLANADE WHARF TO

	Miles.		Miles.
Bell Buoy	1¼	Pearl River Bar.....	6
Diamond Head	5	Barber's Point	15
Koko Head	12	Waianae Anchorage	26
Makapuu Point	16	Kaena Point, N. W. of Oahu....	36
Mokapu	27	Waialua Anchorage	46
Kahuku North Point.....	48	Kahuku N. Pt., Oahu, via Kaena.	58

HONOLULU TO

Lae o ka Laau, S. W. Pt. Molokai	35	Kawaihae, Hawaii.....	144
Kalaupapa, Leper Settlement....	52	Kealakekua, " (direct)	157
West Point of Lanai.....	50	" " (via Kawaihae).....	186
Lahaina, Maui.....	72	S. W. Pt. Hawaii "	233
Kahului, "	90	Punaluu, "	250
Hana, "	128	Hilo, " (direct).....	192
Maalaea, "	86	" " (windward).....	206
Makena, "	96	" " (via Kawaihae).....	230
Mahukona, Hawaii	134		

HONOLULU TO

Nawiliwili, Kauai	98	Hanalei, Kauai	125
Koioa, "	102	Niihau	144
Waimea, "	120		

LAHAINA, MAUI, TO

Kaluaaha, Molokai	17	Maalaea, Maui	12
Lanai	5	Makena, Maui	18

KAWAIIHAE, HAWAII, TO

Mahukona, Hawaii	10	Hilo, Hawaii	85
Waipio, Hawaii	37	Lae o ka Mano, Hawaii.....	20
Honokaa, Hawaii	45	Kailua, Hawaii	34
Laupahoehoe, Hawaii	62	Kealakekua, Hawaii	44

HILO, HAWAII, TO

East Point of Hawaii.....	20	Punaluu, Hawaii	70
Keanhou, Kau, Hawaii.....	50	Kaalualu, Hawaii	80
North Point of Hawaii.....	62	South Point of Hawaii.....	85

WIDTH OF CHANNELS.

Oahu and Molokai.....	23	Maui and Lanai.....	7
Diamond Head to S. W. Point of Molokai	30	Maui and Kahoolawe.....	6
Molokai and Lanai.....	7	Hawaii and Maui.....	26
Molokai and Maui.....	8	Kauai and Oahu.....	63
		Niihau and Kauai.....	15

OCEAN DISTANCES.

HONOLULU TO

San Francisco	2100	Auckland	3810
San Diego	2260	Sydney	4410
Portland, Or.	2360	Hongkong	4920
Brito, Nicaragua	4200	Yokohama	3400
Panama	4720	Guam	3300
Tahiti	2440	Manila, via N. E. Cape.....	4890
Samoa	2290	Victoria, B. C.	2460
Fiji	2700	Midway Islands	1200

OVERLAND DISTANCES.

Revised for the Annual in accordance with latest Government Survey measurements.
The outer column of figures indicates the distance between points

ISLAND OF OAHU.

HONOLULU POST-OFFICE TO

	Miles.		Miles.	Inter.
Bishop's corner (Waikiki).....	3.2	Kahana	26.4	4.5
Waikiki Villa	3.6	Punaluu	28.4	2.0
Diamond Head	5.9	Hauula	31.4	3.0
Kaalawai	6.0	Laie	34.4	3.0
	Miles. Inter.	Kahuku Mill	37.2	2.8
Thomas Square	1.0	Kahuku Ranch	40.0	2.8
Pawaa corners	2.0			
Kamohiuli	3.3	Moanalua	3.4	
Kaimuki Hill Reservoir..	5.0	Kalauao	7.4	4.0
Waiālae	6.2	Ewa Church	10.2	2.8
Niu	8.8	Kipapa	13.6	3.4
Koko Head	11.8	Kaukonahua	20.0	6.4
Makapuu	14.8	Leilehua	20.0	
Waimanalo	20.8	Waiālua	28.0	8.0
Waimanalo, via Pali....	12.0	Waimea	32.4	4.4
		Kahuku Ranch	39.4	7.0
		Ewa Church	10.2	
Nuuanu Bridge	1.1	Waipio (Brown's)	11.2	1.0
Mausoleum	1.5	Hoaeae (Robinson's)	13.5	2.3
Electric Reservoir	2.7	Barber's Point, L. H....	21.5	8.0
Luakaha	4.3	Nanakuli	23.5	2.0
Nuuanu Dam	5.0	Waianae Plantation	29.9	6.4
Pali	6.6	Kahanahāiki	36.9	7.0
Kaneohe	11.9	Kaena Point	42.0	5.1
Waiāhole	18.9	Waiālua to Kaena Pt....	12.0	
Kualoa	21.9			
	3.0			

OAHU RAILWAY: DISTANCES FROM HONOLULU DEPOT TO

	Miles.		Miles.
Moanalua	2.76	Waipio	13.58
Punaloa	6.23	Waikēle	14.57
Halawa	8.14	Hoaeae	15.23
Aiea	9.37	Ewa Plantation Mill	18.25
Kalauao	10.20	Waianae Station	33.30
Waiālu	10.93	Kaena Point	44.50
Pearl City	11.76	Waiālua Station	55.80
Waiāwa	12.52	Kahuku Plantation	69.50
Wahiāwa Station	25.20	Punaluu	80.50

ISLAND OF KAUAI.

NĀWILIWILI TO

NAWLEWILE TO

	Miles.	Inter.		Miles.	Inter.
Koloa	11.0		Wailua River	7.7	4.4
Lawai	13.8	2.8	Kealia	11.9	4.2
Hanapepe	20.0	6.2	Anahola	15.7	3.8
Waimea	27.1	7.1	Kilauea	23.6	7.9
Waiawa	31.5	4.4	Kalihiwai	26.6	3.0
Nuololo	44.8	13.3	Hanalei	31.8	5.2
			Wainiha	34.8	3.0
Hanamaulu	3.3		Nuololo (no road)	47.0	12.2

ISLAND OF MAUI.

Shortest Distances by Main Road, Corrected by Hugh Howell, County Engineer.

KAHULUI TO

	Miles.	Inter.		Miles.	Inter.
Spreckelsville	4.0	..	Paia P. O.	7.2	..
Paia P. O.	7.2	3.2	Makawao Court House. .	11.6	4.4
Hamakuapoko Mill	9.2	2.0	Olinda	18.5	6.9
Haiku P. O.	11.0	1.8	Haleakala, edge Crater. .	26.6	8.1
Halehaku	17.2	6.2	Haleakala Summit	28.6	2.0
Huelo School	20.2	3.0			
Keanae P. O.	35.5	15.3	Maalaea	10.3	..
Nahiku Landing	49.9	14.4	End of Mountain Road. .	15.8	5.5
Ulaino School	49.2	.7	Olowalu	19.9	4.1
Hana P. O.	55.6	6.4	Lahaina Court House. . .	25.5	5.6
Hamoia	58.2	2.6			
Wailua	62.6	4.4	Waiehu	6.4	..
Kipahulu Mill	66.2	3.6	Waihee	7.3	0.9
Mokulau	71.8	5.6	Kahakuloa	16.3	9.0
Nuu	77.0	5.2	Honokohau	23.0	6.7
			Honolua	27.0	4.0
Wailuku	3.8	..	Napili	29.8	2.8
Waikapu	5.9	2.1	Honokawai	33.5	3.7
Maalaea	10.3	4.4	Lahaina Court House. . .	39.0	5.5
Kihei	12.6	2.3			
Kalepolepo	13.9	1.3	MAKENA TO		
Ulupalakua	23.6	9.7	Ulupalakua	3.5	..
Kanaio	26.8	3.2	Kamaole	7.3	3.8
Pico's	33.8	7.0	Waiakoa	13.0	5.7
Nuu	40.6	6.8	Makawao P. O.	20.8	7.8
			Makawao Court House. .	23.0	2.2

ISLAND OF HAWAII.

SOUTH KOHALA.—WAIMEA COURT HOUSE, TO

	Miles.	Inter.		Miles.	Inter.
Hamakua boundary	4.5		Hilo, via Humuula St'n. .	54.0	25.0
Kukuihaele Mill	11.0	6.5	Keamuku Sheep St'n. . .	14.0	
Mana	7.7		Napuu	22.0	8.0
Hanaipoe	15.0	7.3	Keawewai	8.0	
Keanakolu	24.0	9.0	Waika	11.0	3.0
Puakala	34.0	10.0	Kahuwa	13.0	2.0
Laumaia	36.5	2.5	Puuhue	17.0	4.0
Auwaiakewa	12.5		Kohala Court House . . .	22.0	5.0
Humuulu Sheep Station. .	29.0	16.5	Mahukona	22.0	
Via Laumaia	47.5		Puako	12.0	

NORTH KOHALA.—FOREIGN CHURCH, KOHALA, TO

	Miles.		Miles.
Edge of Pololu Gulch.	4.00	Union Mill	2.25
Niinli Mill	2.80	Union Mill R. R. Station. .	3.25
Halawa Mill	1.65	Honomakau	2.55
Hapuu Landing	2.15	Hind's, Hawi	3.25
Kohala Mill . . . . .	.50	Hawi R. R. Station. . . .	4.25
Kohala Mill Landing.	1.50	Honoipu	7.25
Native Church	1.00	Mahukona	10.50
		Puuhue Ranch	7.25

NORTH KOHALA.—ON MAIN ROAD, MAHUKONA TO

	Miles.	Inter.		Miles.	Inter.
Hind's Mill	7.0		Wight's Corner	11.5	1.1
Union Mill Corner.....	8.0	1.0	Niulii Corner	12.8	1.3
Court House	9.2	1.2	Pololu Edge of Gulch....	14.5	1.7
Bond's Corner	9.7	0.5	Puu Hue	5.0	
Kohala Mill Corner.....	10.4	0.7			

SOUTH KOHALA.—KAWAIIHAE TO

	Miles.	Inter.		Miles.
Puu Ainako	4.4		Mana, Parker's	19.5
Puuiki	7.7	3.3	Keawewai	6.0
Waiaka, Catholic Church.	9.5	1.8	Puuhue Ranch	10.0
Puuopelu, Parker's	10.8	1.3	Kohala Court House.....	15.0
Waimea Court House....	11.8	1.0	Mahukona	11.0
Waimea Church	12.2	0.4	Napuu	20.0
Kukuihaele Church	22.1	9.9	Puako	5.0

KONA. KEALAKEKUA TO

Keauhou	6.0		Kawaihae	42.0	4.6
Holualoa	9.6	3.6	Honaunau	4.0	
Kailua	12.0	2.4	Hookena	7.7	3.7
Kaloko	16.0	4.0	Olelomoana	15.2	7.5
Makalawena	19.6	3.6	Hoopulua	21.6	6.4
Kiholo	27.6	8.0	Boundary of Kau.....	24.8	3.2
Ke Au a Lono bound'ry..	31.6	4.0	Flow of '87.....	32.0	7.2
Puako	37.4	5.8	Kahuku Ranch	36.5	4.5

KAU.—VOLCANO HOUSE TO

Half-way House	13.0		Honuaipo	32.6	5.0
Kapapala	18.0	5.0	Naalehu	35.6	3.0
Pahala	23.0	5.0	Waiohinu	37.1	1.5
Punaluu	27.6	4.6	Kahuku Ranch	43.1	6.0

PUNA.—HILO COURT HOUSE TO

(By new road.)

	Miles.		Miles.
Keaau, Forks of Road.....	9.0	Kaimu	32.0
Pahoa	20.0	Kalapana	33.0
Pohoiki	28.0	Keauhou	50.0
Kapoho (Lyman's)	32.0	Panau	40.0
Opihikao	31.0	Volcano House via Panau....	56.0
Kamaili	26.0	Sand Hills. Naawale, old road..	18.5
Kamaili Beach	29.0	Kapoho, old road	22.0

TO VOLCANO.—HILO TO

Shipman's	1.7	Mountain View	16.8
Edge of Woods	4.1	Mason's	17.5
Cocoanut Grove	8.0	Hitchcock's	23.5
Branch Road to Puna.....	9.0	Cattle Pen	24.7
Furneaux's	13.2	Volcano House	31.0

THROUGH HILO DISTRICT TO

Honolii Bridge	2.5	Honohina Church	17.8
Papaikou Office	4.7	Waikaumalo Bridge	18.8
Onomea Church	6.9	Pohakupuka Bridge	21.0
Kaupakuea Cross Road.....	10.7	Maulua Gulch	22.0
Kolekole Bridge	14.3	Kaiwilahilahi Bridge	24.0
Hakalau, east edge gulch....	15.0	Lydgate's House	26.1
Umauma Bridge	16.0	Laupahoe Church	26.7

THROUGH HAMAKUA.—LAUPAHOEHOE CHURCH TO

	Miles.		Miles.
Bottom Kawalii Gulch.....	2.0	Kuaikalua Gulch	22.0
Ookala, Manager's House.....	4.0	Kapulena Church	23.9
Kealakaha Gulch	6.0	Waipanihua	24.3
Kukaiau Gulch	8.0	Stream at Kukuihaele.....	26.0
Horner's	8.5	Edge Waipio	26.5
Catholic Church, Kainehe.....	9.0	Bottom Waipio	27.0
Notley's, Paauilo	10.5	Waimanu (approximate)	32.5
Kaumoalii Bridge	12.5	Kukuihaele to Waimea (approximate)	10.5
Bottom Kalopa Gulch.....	14.0	Gov't. Road to Hamakua Mill....	1.5
Wm. Horner's, Paauhau.....	15.2	Gov't. Road to Paauhau Mill....	1.0
Paauhau Church	16.3	Gov't. Road to Pacific Sugar Mill,	
Holmes' Store, Honokaa.....	18.0	Kukuihaele	0.7
Honokaia Church	20.5		

ISLAND OF MOLOKAI.

KAUNAKAKAI TO

Meyer's, Kalae	5.0	Pukoo	15.0
Kalaupapa	9.0	Halawa	25.0
Kamalo	9.0	Ka Lae o ka Laau.....	19.0
Kaluaha	13.5		

TABLE OF ELEVATIONS OF PRINCIPAL LOCALITIES THROUGHOUT THE ISLANDS.

(From Latest Survey Records; Measurements from mean Sea Level.)

OAHU PEAKS.

	Feet.		Feet.
Kaala, Waianae Range.....	4030	Kaimuki Hill	291
Palikea, Waianae Range.....	3111	Koko Head, higher crater.....	1205
Konahuanui Peak, S. of Pali... 3105		Koko Head, lower crater.....	644
Lanihuli Peak, N. of Pali.....	2781	Makapuu, east point of island... 665	
Tantalus or Puu Ohia.....	2013	Mokapu, crater off Kaneohe....	681
Awawaloa (Olympus), Manoa... 2447		Olomana, sharp peak, Kailua....	1645
Round Top or Ualakaa.....	1049	Maelieli, sharp peak, Heeia....	715
Punchbowl Hill or Puowaina... 498		Ohulehule, sharp peak, Hakipuu..	2263
Diamond Head or Leahi.....	761	Koolau Range, above Wahiawa..	2381

LOCALITIES NEAR HONOLULU.

Nuuanu Road, cor. School St... 40		Nuuanu Road, Queen Emma's... 358	
" " second bridge.... 77		" " cor. above Elec-	
" " cor. Judd St.... 137		tric Light Works.....	429
" " Cemetery gate... 162		Nuuanu Road, large bridge....	735
" " Mau's'l'm gate... 206		" " Luakaha gate....	848
" " Schaefer's gate.. 238		" " Pali, old station..	1214

MOLOKAI, ETC.

Kamakou Peak	4958	Kaolewa Pali, o'v'lkng. Settlmnt..	2100
Oioku Peak	4600	Meyer's, Kalae	1485
Kaunuohua	4535	Mauna Loa, near Kaunakakai... 1382	
Kalapamoa	4004	Kualapuu Hill	1018
Puu Kolekole	3951	Kahoolawe (Moaula Hill).....	1472
Kaulahuki	3749	Molokini	160
Kaapahu Station	3563	Lanai	3400

HAWAII.

	Feet.		Feet.
Mauna Kea	13,825	Hiilawe Falls	1700
Mauna Loa	13,675	Parker's, Mana	3595
Hualalai	8275	Honokaa Store	1100
Kohala Mountains	5489	Kaluamakani, Hamakua	7584
Kilauea Vol. House, by leveling	3971	Lower edge forest, Hamakua ..	1700
Kulani, near Kilauea.....	5574	Lower edge forest, Hilo.....	1200
Kalaihea	6660	Laupahoehoe Pali	385
Aahuwela, near Laumaia.....	7747	Kauku Hill	1964
Hitchcock's, Puakala	6325	Puu Alala	762
Ahumo'a	7034	Halai Hill	347
Waimea Court House.....	2669	Puu o Nale, Kohala.....	1797
Waipio Pali, in Mountain.....	3000	B. D. Bond's, Kohala.....	534
Waipio Pali, on S (Road)....	900	Episcopal Church, Kainaliu...	1578
Waipio Pali, on N. side.....	1394	Puu Enuhe, Kau.....	2327
Waimanu, at sea.....	1600	Puu Hoomaha, Kau.....	6636
Waimanu, in mountain.....	4000	Puu ka Pele, Kau.....	5768
Waiau Lake, Mauna Kea.....	13,041	Pohaku Hanalei, Kau.....	12,310
Poliahu, Mauna Kea.....	13,646	Kapoho Hill, Puna.....	432
Kalaieha, N. Hilo.....	6738	Kaliu Hill, Puna.....	1065
Pohaku Hanalei, Humuula.....	7343	Olaa Trig. Station.....	622

MAUI.

Haleakala (Red Hill).....	10,032	Puu Kapuai, Hamakua.....	1150
Mt. Kukui, West Maui.....	5790	Puu o Umi, Haiku.....	620
Piiholo, Makawao	2256	Puu Pane, Kula.....	2568
Puu Olai (Miller's Hill).....	355	Lahainaluna Seminary	600
Puu Io, near Ulupalakua.....	2841	Kauiki, Hana	392
Ulupalakua, about	1800	"Sunnyside" Makawao	930
Olinda, Makawao	4043	Paia Foreign Church, about. ...	850
Puu Pane, Kahikinui.....	3988	Eka, crater in Waihee.....	4500
Puu Niania, Makawao.....	6850	Keakaamanu, Hana	1250

KAUAI

Hauapu	2030	Mt. Waialeale, central peak...	5170
Kilohana, about	1100	Namolokama	4200

NOTE—A large number of approximate elevations of stations where rain records are kept may be found in the Rain Tables in this Annual.

Area, Elevation and Population of the Hawaiian Islands.

(As revised by latest official Records.)

Islands.	Area in Statute Square Miles.	Acres.	Height in Feet.	Population in 1910.
Hawaii.....	4,015	2,570,000	13,825	55,382
Maui.....	728	466,000	10,032	28,623
Oahu.....	598	384,000	4,030	81,993
Kauai.....	547	348,000	5,250	23,744
Molokai.....	261	167,000	4,958	1,791
Lanai.....	139	86,000	3,400	131
Niihau.....	73	62,000	1,300	208
Kahoolawe.....	44	44,000	1,472	2
Midway.....	...	.....	43	35

Total area of Hawaiian Islands, 6,405 miles.

The outlying islets on the N. W. may amount to 6 square miles.

KILAUEA, ISLAND OF HAWAII.

Corrected for Deflection of the Vertical.

Area, 4.14 square miles, or 2,650 acres.
 Circumference, 41,500 feet, or 7.85 miles.
 Extreme width, 10,300 feet, or 1.95 miles.
 Extreme Length, 15,500 feet, or 2.93 miles.
 Elevation, Volcano House, 4,000 feet.

MOKUAWEOWEO.

The Summit Crater of Mauna Loa, Island of Hawaii.

Area, 3.70 square miles, or 2,370 acres.
 Circumference, 50,000 feet, or 9.47 miles.
 Length, 19,500 feet, or 3.7 miles.
 Width, 9,200 feet, or 1.74 miles. Elevation of summit, 13,675 feet.

HALEAKALA, MAUI.

The great Crater of Maui, the largest in the world.

Area, 19 square miles, or 12,160 acres.
 Circumference, 105,600 feet, or 20 miles.
 Extreme Length, 39,500 feet, or 7.48 miles.
 Extreme width, 12,500 feet, or 2.37 miles.
 Elevation to summit, 10,032 feet.
 Elevation of principal cones in crater, 8,032 and 1,572 feet.
 Elevation of cave in floor of crater, 7,380 feet.

IAO VALLEY, MAUI.

Length (from Wailuku), about 5 miles.
 Width of Valley, 2 miles.
 Depth, near head, 4,000 feet.
 Elevation of Puu Kukui, above head of Valley, 5,700 feet.
 Elevation of Crater of Eke, above Waihee Valley, 4,500 feet.

Standard and Local Time.

The Standard Time of the Hawaiian Islands is that of Longitude $157^{\circ} 30'$ W., 10 h. 30 m. slower than Greenwich Time. The time of sunrise and sunset given in the tables is of course local time; to correct this to standard time, add or subtract a correction corresponding with the differences between $157^{\circ} 30'$ and the longitude of the station.

The corrections would be for the following stations:

Niihau	+10:8 m	Wailuku, Maui	— 4:0 m
Mana, Kauai	+ 9:0 m	Haiku, Maui	— 4:8 m
Koloa, Kauai	+ 7:9 m	Hana, Maui	— 6:0 m
Kilauea, Kauai	+ 7:3 m	Kailua, Hawaii	— 6:2 m
Waialua, Oahu	+ 2:5 m	Kohala, Hawaii	— 7:0 m
Kahuku, Oahu	+ 2:0 m	Kukuihaele, Hawaii	— 8:0 m
Honolulu, Oahu	+ 1:5 m	Punaluu, Hawaii	— 8:0 m
Kalae, Molokai	— 2:0 m	Ookala, Hawaii	— 9:0 m
Lanai	— 2:5 m	Hilo, Hawaii	— 9:8 m
Lahaina, Maui	— 3:0 m		

Total Population by Districts and Islands — Comparative, 1900 and 1910.

From Census Bulletin, Washington, D. C.

HAWAII	1900	1910	OAHU	1900	1910
Hilo	19,785	22,545	Honolulu.....	39,306	52,183
Puna	5,128	6,834	Ewa.....	9,689	14,627
Kau	3,854	4,078	Waianae.....	1,008	1,958
North Kona.....	3,819	3,377	Waialua.....	3,285	6,770
South Kona.....	2,372	3,191	Koolauloa	2,372	3,204
North Kohala....	4,366	5,398	Koolaupoko	2,844	3,251
South Kohala....	600	922			
Hamakua.....	6,919	9,037		58,504	81,993
			Midway		35
MAUI	47,843	55,382	KAUAI		
Lahaina	4,352	4,787	Waimea.....	5,714	7,987
Wailuku.....	7,953	11,742	Niihau.....	172	208
Hana	5,276	3,241	Koloa	4,564	5,769
Makawao.....	7,236	8,855	Kawaihau.....	3,220	2,580
			Hanalei	2,630	2,457
			Lihue	4,434	4,951
	24,797	28,625			
Molokai	3,123	1,791		20,734	23,952
Lanai.....		131	Total whole group	154,001	191,909

Population in 1910 by Age, Groups, Sex and Race.

COLOR OR RACE	Under 21 yrs.		21 yrs. and over		All ages		
	Male	Female	Male	Female	Male	Female	TOTAL
Hawaiian	5,513	5,404	7,926	7,198	13,439	12,602	26,041
Caucasian-Hawn.	2,956	2,813	1,482	1,521	4,438	4,334	8,772
Asiatic-Hawn.	1,363	1,391	449	531	1,812	1,922	3,734
Portuguese	6,599	6,508	4,974	4,222	11,573	10,730	22,303
Porto Rican	1,315	1,216	1,563	796	2,878	2,012	4,890
Spanish	610	569	468	343	1,078	912	1,990
Other Caucasian	2,359	2,244	6,896	3,368	9,255	5,612	14,867
Chinese	3,453	2,930	13,695	1,596	17,148	4,526	21,674
Japanese	12,989	11,016	41,794	13,875	54,783	24,891	79,674
Korean	400	306	3,531	296	3,931	602	4,533
Black and Mulatto ...	191	196	224	84	415	280	695
All Other.....	1,355	245	994	142	2,349	387	2,736
Total	39,103	34,838	83,996	33,972	123,099	68,810	191,909

Population of Honolulu, various census periods.

1890.....	22,907	1896.....	29,926
1900.....	39,300	1910.....	52,183

Population of Honolulu and Hilo by Race and Sex, 1910.

From Tables of the Bureau of Census.

RACE	SEX	Honolulu	Hilo
Hawaiian.....	Male.....	3,969	369
	Female....	3,941	295
Caucasian-Hawaiian.....	Male.....	2,000	218
	Female....	2,233	200
Asiatic-Hawaiian.....	Male.....	653	98
	Female....	727	122
Portuguese.....	Male.....	3,042	552
	Female....	3,105	586
Porto Rican.....	Male.....	210	63
	Female....	177	46
Spanish.....	Male.....	141	37
	Female....	117	30
Other Caucasian.....	Male.....	5,627	382
	Female....	3,573	295
Chinese.....	Male.....	6,948	335
	Female....	2,626	100
Japanese.....	Male.....	7,659	1,699
	Female....	4,434	1,080
Korean.....	Male.....	352	26
	Female....	108	1
Filipino.....	Male.....	68	66
	Female....	19	10
Negro.....	Male.....	179	6
	Female....	148	....
All other.....	Male.....	66	15
	Female....	61	14
Grand Total.....		52,183	6,745
Total.....	Male.....	30,914	3,866
	Female....	21,269	2,879

Illiterates in the Population Territory of Hawaii, 10 Years of Age and Over, Census of 1910.

RACE	Per cent.	RACE	Per cent.
All races	26.8	Spanish	49.6
Hawaiian	4.7	Other Caucasian	3.5
Caucasian-Hawaiian	1.3	Chinese	32.3
Asiatic-Hawaiian	1.8	Japanese	35.0
Portuguese	35.4	Korean	25.9
Porto Rican	73.2	Filipino and all other.....	32.4

The Census Bureau classes as illiterate any person ten years of age, or over, who is unable to write, regardless of ability to read.

Population by Race and Sex, 1910, and Per Cent of Change Since 1900.

RACES	Total Populat'n	Native Born	Foreign Born	Males	Females	% of Change.
Hawaiian	26,041	26,041	.....	13,439	12,602	12.58 dec
Caucas'n-Haw..	8,772	8,772	.....	4,448	4,334	} 59.35 inc
Asiatic-Haw...	3,734	3,734	.....	1,812	1,922	
Portuguese	22,303	13,766	8,537	11,573	10,730	42.28 "
Spanish	1,990	357	1,633	1,078	912	new
Porto Rican ...	4,890	4,830	.....	2,878	2,012	"
Other Caucas'n	14,867	9,917	4,950	9,255	5,612	40.56 inc.
Chinese.....	21,674	7,195	14,479	17,148	4,526	15.87 dec.
Japanese.....	79,674	19,889	59,785	54,783	24,891	30.37 inc.
Korean.....	4,533	362	4,171	3,931	602	} 146.03 "
Black and M'to	695	602	93	415	280	
All Others.....	2,736	2,632	104	2,349	387	
Total ...	191,909	98,157	93,752	123,099	68,810	24.62 ^{net} inc

Estimated Population, 1914, Territory of Hawaii, by Nationality.

From Board of Health Report.

RACE	Number	RACE	Number
American }	24,450	Part-Hawaiian	14,236
British }		Japanese	89,715
German }		Portuguese	23,299
Russian }		Porto Rican	5,054
Chinese	21,631	Spanish	4,226
Filipino	14,992	Others	5,238
Hawaiian	24,550	Total	227,391

Vital Statistics, Territory of Hawaii, 1914.

For Fiscal Year ending June, compiled from Board of Health Report.
Table of Births, Marriages and Deaths by Counties.

ISLANDS. ETC.	Estmtd. Popltn	Births	Marriages	Deaths
Honolulu.....	62,600	1,960	2,287	1,330
Other Districts of Oahu County.....	38,457	1,063	75	484
Hawaii County	63,000	1,775	410	919
Maui County	34,800	1,118	240	577
Kalawao County	784	19	14	85
Kauai County	27,750	751	123	312
Total, 1913-14	227,391	6,756	3,149	3,707
1912-13	217,744	5,568	3,231	3,232
,, 1911-12 .....	.....	5,147	2,882	3,071

Births and Deaths by Nationalities and Counties, 1914.

NATIONALITY	Honolulu		Other dist. Oahu		Hawaii		Maui		Kalawao		Kauai		TOTAL	
	Births	Deaths	Births	Deaths	Births	Deaths	Births	Deaths	Births	Deaths	Births	Deaths	Births	Deaths
American...	129	92	22	15	13	14	9	10	.....	.....	2	1	175	132
British.....	33	24	4	3	25	1	5	2	.....	.....	3	2	70	32
Chinese.....	365	136	58	25	54	42	46	25	.....	4	25	15	548	247
German.....	16	18	4	1	3	1	3	1	.....	...	5	1	31	22
Hawaiian...	155	392	63	95	156	189	129	160	14	71	69	59	586	966
Part Haw'n	337	119	51	19	118	15	152	39	5	3	45	7	708	202
Japanese....	705	313	671	238	773	383	524	214	.....	1	366	147	3,039	1,296
Portuguese	141	128	90	30	348	90	200	68	.....	5	132	25	911	346
Porto Rican	19	18	30	7	105	34	33	11	.....	.....	29	9	216	79
Spanish.....	16	16	28	10	105	28	54	13	.....	.....	32	12	235	79
Filipino.....	8	37	35	36	65	108	16	16	.....	.....	30	26	154	223
Russian.....	9	11	.....	.....	2	4	2	2	.....	.....	1	1	14	18
Others.....	27	26	7	5	8	10	15	16	.....	1	12	7	69	65
Total.....	1,960	1,330	1,063	484	1,775	919	1,188	577	19	85	751	312	5,756	3,707

Comparative Table of Population, Hawaiian Islands—
Census Periods 1860-1910.

Islands	1860	1866	1872	1878	1884	1890	1896	1900	1910
Hawaii..	21,481	19,808	16,001	17,034	24,994	26,754	33,285	46,843	55,382
Maui....	16,400	14,035	12,334	12,109	15,970	17,357	17,726	24,797	28,623
Oahu....	21,275	19,799	20,671	20,236	28,068	31,194	40,205	58,504	81,993
Kauai...	6,487	6,299	4,961	5,634	* 8,935	11,643	15,228	20,562	23,744
Molokai	2,864	2,299	2,349	2,581	.....	2,652	2,307	2,504	1,791
Lanai...	646	394	348	214	} 2614	174	105	619	131
Niihau...	647	325	233	177	.....	216	164	172	208
Kahoolawe	.....	.....	.....	.....	.....	.....	.....	.....	2
Midway..	.....	.....	.....	.....	.....	.....	.....	.....	35
Total..	69,800	62,959	56,897	57,985	80,578	89,900	109,020	154,001	191,909
All Foreigners	2,716	4,194	5,366	10,477	36,346	49,368	69,516	116,366	153,362
Hawaiians...	67,084	58,765	51,531	47,508	44,228	40,622	39,504	37,635	38,547

* Including Niihau.

The nationality of teachers in all schools of the Islands, June, 1914, was as follows: Hawaiian, 85; Part Hawaiian, 191; American, 511, English, 42; Germans, 23; Portuguese, 79; Chinese, 41; Japanese, 27; Filipino, 1; Spanish, 1; other Foreigners, 19; Total, 1,020.

School Statistics, Territory of Hawaii, 1914.

From Report of the Superintendent of Public Instruction,
NUMBER OF SCHOOLS, CLASS, ETC.

ISLANDS	PUBLIC SCHOOLS June 30, 1914.					PRIVATE SCHOOLS Dec. 31, 1913.		
	No. of Schools	No. of Teachers	No. of Pupils			No. of Schools	No. of Teachers	No. of Pupils
			Boys	Girls	Total			
Hawaii	62	217	4,466	3,778	8,244	7	30	846
Oahu	40	271	5,803	4,856	10,659	35	243	4,453
Maui, Molokai	48	137	2,310	1,993	4,303	7	32	932
Kauai	18	88	2,036	1,748	3,784	2	2	67
Totals	168	713	14,615	12,375	26,990	51	307	6,298

NUMBER OF SCHOOLS, TEACHERS AND PUPILS.

CLASS	Schools	TEACHERS			PUPILS		
		M.	F.	Total	M.	F.	Total
Public Schools	168	142	571	713	14,615	12,375	26,990
Private "	51	101	206	307	3,559	2,739	6,298
Totals	221	243	777	1,020	18,174	15,114	33,288

AGES OF PUPILS IN PUBLIC AND PRIVATE SCHOOLS.

SCHOOLS	Under 6	6-15	Over 15	Total
Public Schools	147	25,799	1,044	26,990
Private "	1,168	4,027	1,103	6,298
Total	1,315	29,826	2,147	33,288

NATIONALITY OF PUPILS.

	Public	Private		Public	Private
Hawaiians	3,288	661	Spanish	920	71
Part Hawaiians, ...	3,089	1,076	Chinese	2,638	974
Americans	635	768	Japanese	10,329	1,179
English	102	71	Porto Ricans	717	50
Germans	164	99	Korean	304	127
Portuguese	4,329	1,071	Russians	150	33
Filipinos	207	36	Other Foreigners ..	118	82
			Total	26,990	6,298

Value Domestic Mdse. shipments to the United States from Hawaii for fiscal years ending June 30, 1913 and 1914.

Compiled from Monthly Summary of Commerce and Finance, Bureau of Statistics.

Articles.	1913	1914
Animals.....	\$ 12,798	\$ 5,226
Art Works, Paintings, etc.....	12,505	315
Bones, hoofs, etc.....	.....	2,119
Beeswax.....	10,061	12,525
Breadstuffs.....	6,228	11,450
Chemicals, drugs, etc.....	4,044	3,177
Coffee.....	352,905	657,853
Cotton and manufactures of.....	4,048	1,333
Fibers, unmanufactured—Sisal.....	44,221	59,915
Fish.....	192	1,008
Fruits and nuts.....	3,779,527	4,783,583
Hides and skins.....	137,128	178,926
Honey.....	57,450	33,992
Household and personal effects.....	.....	6,500
India Rubber, crude.....	5,993	2,743
Machinery and parts of.....	825	.....
Meat products, tallow.....	3,863	8,087
Molasses.....	140,610	149,597
Musical instruments.....	8,835	10,419
Paper and manufactures of.....	6,329	1,737
Pineapple juice.....	78,593	68,936
Rice.....	185,943	178,310
Straw and palm leaf, manufactures of.....	1,113	1,187
Sugar, brown.....	35,235,170	32,106,011
Sugar, refined.....	1,372,650	1,079,909
Tobacco leaf, unmanufactured.....	.....	1,277
Vegetables.....	10,023	11,378
Wood and manufactures of.....	67,287	61,708
Wool, raw.....	71,113	77,214
All other articles.....	51,883	20,078
Total value shipments Hawaiian products...	\$41,661,142	\$39,538,513
Returned shipments merchandise.....	991,020	1,089,687
Shipments foreign merchandise.....	60,772	50,380
Total to United States.....	\$42,713,184	\$40,677,580

Import Values from United States, comparative, for fiscal years ending June, 1913 and 1914.

Compiled from Monthly Summary of Commerce and Finance, Bureau of Statistics.

Articles.	Domestic Merchandise	
	1913	1914
Agricultural Implements	\$ 42,829	\$ 31,173
Animals ..	322,041	262,826
Art Works	22,669	.....
Automobiles, and parts of	1,289,806	841,458
Books, Maps, Engravings, etc.	292,911	182,831
Boots and Shoes	475,980	367,107
Brass, and manufactures of	108,004	77,144
Breadstuffs ..	2,282,034	2,221,197
Brooms and Brushes	38,256	28,661
Candles ..	12,851	.....
Carriages, Cars, etc., and parts of ..	302,255	294,015
Cement ..	178,657	266,090
Chemicals, Drugs, Dyes, etc.	418,950	384,501
Clocks, Watches, and parts of	41,116	20,252
Coal ..	63,991	65,017
Cocoa and Chocolate	36,598	39,067
Coffee, prepared	13,142	7,444
Copper, and manufactures of	118,123	98,232
Cork, manufactures of	18,002	.....
Cotton, manufactures of, and clothing ..	2,577,285	1,981,843
Earthen, Stone and Chinaware	109,374	92,710
Eggs ..	51,191	62,462
Electrical Machinery and instruments....	528,958	567,181
Explosives ..	582,067	925,963
Fertilizers ..	966,310	684,966
Fibers, Textile Grasses, manufactures of ..	173,860	148,077
Fish ..	418,956	314,968
Fruits and Nuts	372,274	385,100
Furniture of Metal	52,232	65,478
Glass and Glassware	265,101	174,953
Grease, lubricating, etc.	18,013	.....
Hay ..	323,821	295,525
Household and Personal Effects	216,699	136,624
India Rubber, manufactures of	545,285	530,253
Instruments, etc., for scientific purposes....	18,754	21,432
Iron and Steel and manufactures of	131,083	79,122
Sheets and Plates, etc.	231,931	139,652
Builders' Hardware, etc.	1,106,072	737,844
Machinery, Machines, parts of	1,204,895	1,021,746
Nails, Spikes, Pipes, etc.	3,595,832	2,506,695
Jewelry and manufactures, Gold and Silver ...	191,770	92,313
Lamps, Chandeliers, etc.	40,996	24,598
Lead and manufactures of	92,255	72,293
Leather and manufactures of	275,280	218,062
Marble, Stone and manufactures of	30,478	24,031

Import Values from United States for 1913-14—Continued.

Articles.	Domestic Merchandise	
	1913	1914
Motor Boats	\$ 161	\$.....
Musical Instruments	88,761	53,531
Naval Stores	15,486	11,702
Oil Cloth	20,747	13,177
Oils: Animal	1,084	.....
Mineral, Crude	699,700	922,630
Refined, etc.	1,181,790	1,030,795
Vegetable	80,134	61,252
Paints, Pigments and Colors	283,351	211,403
Paper and manufactures of	407,121	405,881
Perfumery, etc.	36,302	35,253
Phonographs, etc.	48,461	36,527
Photographic Goods	132,193	96,913
Plated Ware	47,893	.....
Provisions, etc., Beef Products	138,936	24,598
Hog and other Meat Products	625,496	548,169
Dairy Products	578,337	562,516
Rice	189,986	216,252
Seeds	8,466	.....
Silk and manufactures of	87,648	103,584
Soap; Toilet and other	200,626	186,003
Spirits, etc., Malt Liquors	255,738	248,017
Spirits, distilled	176,988	173,850
Wines	393,130	358,494
Starch	20,922	15,647
Straw and Palm Leaf, manufactures of	102,001	80,131
Sugar, Molasses and Syrup	78,257	82,409
Confectionery	79,213	91,933
Tin and manufactures of	54,366	93,180
Tobacco, manufactures of	697,995	740,851
Toys	70,854	57,770
Trunks, Valises and Traveling Bags	82,450	.....
Varnish	13,572	9,796
Vegetables	331,034	434,460
Wood and manufactures of—		
Logs and round timber	17,462	8,615
Lumber, Shingles, etc.	1,729,904	876,544
Doors, Sash, Blinds and all other	132,893	294,548
Furniture	258,764	203,615
Wool and manufactures of	261,994	186,946
Zinc, manufactures of	11,062	.....
All other articles	452,226	603,271
Total domestic merchandise.....	\$30,411,899	\$25,571,169
Total value foreign merchandise from U. S. .	234,190	202,243

Hawaii's Commerce with U. S. and Foreign Countries.

Total Import with Export Values for 1913 and 1914.

Compiled from Monthly Summary of Commerce and Finance, Bureau of Statistics.

Countries.	Imports.		Exports.	
	1913	1914	1913	1914
Austria-Hungary.....	\$ 478	\$ 608	\$	\$
Belgium.....	62,542	47,466	4,373	8,618
Canada.....	24,144	21,677	64,201	88,525
Great Britain.....	797,839	468,006	144,352	70,026
Germany.....	424,560	696,197	97,715	118,755
France.....	25,241	15,524	18,697	27,839
Italy.....	4,963	1,832	.....	333
Netherlands.....	13,582	10,317	.....	10,225
Norway.....	1,377	3,042	11,059	.....
Portugal.....	2,073	2,884	.....	.....
Switzerland.....	1,029	396	.....	.....
Sweden.....	5,784	5,175	.....	.....
Chile.....	709,535	332,310	.....	12
China.....	30,591	8,910	6,236	5,614
East Indies.....	850,363	957,320	300	1,523
Hong Kong.....	393,294	369,887	6,686	23,761
Japan.....	2,845,756	2,516,463	113,941	20,491
Australasia.....	472,761	615,046	15,337	4,857
Oceania.....	64,194	84,820	8,565	14,682
Korea.....	895	2,353	.....	120
Philippines.....	140,650	121,078	264,915	518,008
United States*.....	30,646,089	25,773,412	42,713,184	40,678,580
All other.....	1,567	1,247	2,269	1,856
Total.....	\$37,519,620	\$32,055,970	\$43,471,830	\$41,593,825

* Not including coin shipments.

Exports and Imports for fiscal year ending June 30, 1914.

Exports—Domestic produce to United States.....	\$40,628,200
Foreign produce to United States.....	50,380
Coin shipments to United States.....	1,166,180
Domestic produce to Foreign Countries.....	902,985
Foreign produce to Foreign Countries.....	12,260
Total export value.....	\$42,760.005
Imports—Domestic produce from United States.....	\$25,571.160
Foreign produce from United States.....	202,243
Coin shipments from United States.....	405,590
Produce from Foreign Countries.....	6,282,558
Total import value	\$32,461.560

Quantity and Value of principal articles of Domestic produce Shipped to U. S. for the fiscal year ending June 30, 1914.

Compiled from Monthly Summary of Commerce and Finance, Bureau of Statistics.

Articles		Quantity	Value
Sugar, raw	pounds.....	1,089,379,128	\$32,108,011
Sugar, refined	"	25,371,574	1,079,909
Coffee, raw	"	4,430,722	657,853
Rice	"	3,974,280	178,310
Fibers, sisal.....	tons.....	457	59,915
Fruits: Fresh Bananas.....	bunches.....	197,910	125,905
Fresh Pineapples.....	.....	.....	115,745
Canned Pineapples.....	.....	.....	4,536,919
All other.....	.....	.....	2,901
Pineapple Juice.....	.....	.....	68,936
Beeswax	pounds.....	39,806	12,525
Honey .....	.....	.....	33,992
India Rubber, crude.....	pounds.....	3,900	2,743
Molasses	gallons.....	4,110,404	149,597
Hides of cattle.....	pounds.....	1,212,140	173,555
Wool, raw	"	531,192	77,214
Timber, lumber & unmnfrd wood.....	.....	.....	61,708

Domestic Exports to Foreign Countries for fiscal year 1914.

ARTICLES	Quantity	Value
Raw sugar	pounds.....	10,800
" refined	"	127,800
Coffee, raw	"	1,077,148
Fruits and Nuts .....	.....	.....
Other .....	.....	.....
Total. . . . .	.....	\$902,985

Summary of Insurance Business, Ter. of Hawaii, for 1913.

From Report of Insurance Commissioner.

Class.	Amount Written	Amount Premiums	Losses and Claims paid
Fire.....	\$28,385,448.72	\$ 567,821.25	\$ 87,630.79
Marine.....	60,580,768.00	261,266.77	103,281.70
Life.....	2,855,347.00	700,460.55	224,390.16
Accident and Health.....	.....	30,811.40	11,358.47
Automobile.....	.....	24,737.35	2,927.23
Surety and Fidelity.....	.....	36,034.99	8,248.01
Employers' Liability.....	.....	29,809.86	11,249.67
Plate Glass.....	.....	2,309.56	339.37
Burglary.....	.....	346.40	.....
Other.....	.....	1,093.65	147.80
Total.....	\$91,821,563.72	\$ 1,654,691.75	\$ 449,573.20

* Of this amount \$113,518.08 is new business and \$586,942.47 renewals.

Number and Tonnage of Vessels Entering and Clearing at all Ports, District of Hawaii, 1914.

[Not including Transports and bunker coal vessels.]

Ports.	Entered.		Cleared.	
	Vessels	Tons	Vessels	Tons
Honolulu —Coastwise.....	261	959,654	255	882,892
Foreign.....	138	647,834	132	664,915
Hilo —Coastwise.....	20	23,196	24	30,187
Foreign.....	...	.....	6	33,379
Kahului —Coastwise.....	10	16,016	10	16,660
Foreign.....	2	1,168	...	.....
Koloa —Coastwise.....	5	2,528	6	3,218
Foreign.....	2	3,680	1	3,036
Mahukona—Coastwise.....	9	6,812	11	8,271
Foreign.....	...	.....	...	.....
Total.....	447	1,660,888	445	1,642,558

Value Carrying Trade to and from District of Hawaii, 1914.

Nationality.	Imports.	Exports.
American.....	\$31,710,515	\$41,380,867
British.....	758,261	183,983
French.....	119,667	.....
German.....	997,047	3,750
Japanese.....	1,950,582	25,472
Norwegian.....	12,939	.....
All Other.....	1,246	.....
Total.....	\$35,550,257	\$41,594,072

Value of Imports from Foreign Countries, 1914.

Bags	\$ 909,145	Food Supplies	\$2,315,274
Cement	10,275	Iron and Steel	103,838
Chemicals	1,019,291	Spirits	223,743
Coal	277,228	Miscellaneous	852,947
Cottons	132,854		
Fertilizers	437,963	Total	\$6,282,558

Hawaiian Sugar Export Statistics from 1901.

For earlier years see Annuals 1896-1914.

Year	Sugar.		Molasses.		Total export Value.
	Pounds	Value.	Gallons.	Value.	
1901.....	690,882,132	27,094,155.00	93,820	4,615.00	27,098,770.00
1902.....	720,553,357	23,920,113.00	48,036	2,187.00	23,922,300.00
1903.....	774,825,420	25,310,684.00	10	1.00	25,310,685.00
1904.....	736,491,992	24,359,385.00	11,187	712.00	24,360,097.00
1905.....	832,721,637	35,112,148.00	26,777	1,282.00	35,113,430.00
1906.....	746,602,637	24,495,427.00	3,180	177.00	24,495,604.00
1907.....	822,014,811	27,692,997.00	6,917	355.00	27,693,352.00
1908.....	1,077,570,637	39,816,062.00	23	20.00	39,816,082.00
1909.....	1,022,863,927	37,632,742.00	728	79.00	37,632,821.00
1910.....	1,111,594,466	42,625,062.00	100	7.00	42,625,069.00
1911.....	1,011,215,858	36,704,656.00	1,801,796	89,708.00	36,794,364.00
1912.....	1,205,465,510	49,961,509.00	1,734,318	77,241.00	50,038,750.00
1913.....	1,085,362,344	36,607,820.00	3,736,877	140,610.00	36,748,430.00
1914.....	1,114,750,702	33,187,920.00	4,110,404	149,597.00	33,337,517.00

Passengers To and From Hawaii, Fiscal Year 1914.

Courtesy Board Immigration, Labor and Statistics.

Nationality	Arrivals			Departures		
	Cabin	Steer-age	Total	Cabin	Steer-age	Total
Chinese.....	229	552	781	72	728	700
Japanese.....	270	4,562	4,832	165	3,778	3,943
Filipinos.....	3	3,199	3,202	1	693	694
Koreans.....	9	50	59	5	41	46
Portuguese.....	...	208	208	...	819	819
Spaniards.....	...	25	25	...	754	754
Russians.....	...	38	38	...	243	243
Hindus.....	1	13	14	1	10	11
Porto Ricans.....	...	...	...	...	105	105
All Others.....	...	695	695	...	883	883
Europeans.....	7,490	...	7,490	6,865	...	6,865
Total.....	8,002	9,342	17,344	7,109	8,054	15,163

Seating capacity of principal Churches, Halls and Places of Amusement—Honolulu.

Roman Catholic Cathedral, Fort street.....	1,500
Hawaiian Opera House, King street.....	1,000
Kawaiahao Church (Native), King street.....	1,000
Empire Theatre (moving pictures).....	930
Central Union Church, Beretania street.....	850
St. Andrew's Cathedral (Episcopal), Emma street.....	800
Chas. R. Bishop Hall, Punahou Preparatory Building.....	600
The Bijou (vaudeville).....	1,600
Ye Liberty Theater.....	1,600
Y. M. C. A. game hall.....	850

Hawaii's Annual Trade Balance, etc., from 1901.

Year.	Imports.	Exports.	Excess xport Values.	Custom house Receipts.
1901	24,964,693.43	29,342,697.00	4,378,003.57	1,264,862.78
1902	22,036,583.00	24,793,735.00	2,757,152.00	1,327,518.23
1903	13,982,485.00	26,275,438.00	12,292,953.00	1,193,677.83
1904	15,784,691.00	25,204,875.00	9,420,184.00	1,229,338.15
1905	14,718,483.00	36,174,526.00	21,456,043.00	1,043,340.38
1906	15,639,874.00	26,994,824.00	11,354,950.00	1,218,764.13
1907	18,662,434.00	29,303,695.00	10,641,261.00	1,458,843.48
1908	19,757,270.00	42,241,921.00	22,484,651.00	1,550,157.32
1909	22,241,041.00	42,281,777.00	20,040,736.00	1,396,379.91
1910	26,152,435.00	47,029,631.00	20,877,196.00	1,450,324.63
1911	28,065,626.00	42,666,197.00	14,600,571.00	1,654,761.34
1912	28,694,322.00	55,449,438.00	26,755,116.00	1,643,197.37
1913	37,519,620.00	43,471,830.00	5,952,210.00	1,869,513.89
1914	31,550,257.00	41,594,072.00	6,043,815.00	1,184,416.12

Receipts, Expenditures, and Public Debt of Hawaii, from 1901

(From Official Reports.)

Years.	Revenue.	Expenditures.	Cash Balance in Treasury.	Public Debt.
1901	2,140,297.36	2,576,685.53	75,994.97	939,970.31
1902	2,473,172.81	2,382,968.90	287,131.30	1,093,970.31
1903	2,387,715.88	2,603,194.20	73,181.63	2,185,000.00
1904	2,415,356.33	2,844,054.81	56,613.29	3,317,000.00
1905	2,354,783.37	2,240,731.55	59,408.49	3,861,000.00
1906	3,320,998.90	2,512,675.89	335,331.37	3,818,000.00
1907	2,716,624.00	2,665,845.74	348,216.51	3,718,000.00
1908	2,551,522.21	2,508,001.51	391,737.19	3,979,000.00
1909	3,051,526.81	3,160,875.81	453,106.76	3,959,000.00
1910	3,641,245.35	3,435,082.87	845,218.51	4,079,000.00
1911	3,482,560.84	3,730,765.16	822,282.07	4,004,000.00
1912	3,963,588.55	4,002,483.00	2,327,844.00	5,454,000.00
1913	4,300,780.71	4,261,468.66	2,279,088.88	6,844,000.00
1914	3,925,187.95	4,263,853.64	1,286,315.57	6,844,000.00

Hawaii's Bonded Debt, June 30, 1914.

Public Improvement 4½% Bonds, 1903-04	\$1,000,000
Public Improvement 4¼% Bonds, 1904-05	1,000,000
Refund Bonds, 1905, 4%	600,000
Public Improvement 3½% Bonds	1,244,000
Public Improvement 4% Bonds	3,000,000

Total Bonds Outstanding\$6,844,000

Assessed Values Real and Personal Property for 1914, by races of tax-payers.

Courtesy Treasury Department.

Taxpayers	Real Estate.		Personal Property.	
	No. Tax-payers.	Assessed Value.	No. Tax-payers.	Assessed Value.
Corporations, firms, etc. . .	612	\$50,291,833	833	\$60,246,547
Anglo-Saxons.	2,875	20,724,699	2,084	2,979,918
Hawaiians.	5,984	13,541,554	1,943	1,255,947
Chinese.	814	1,866,554	1,987	2,489,074
Japanese.	862	936,547	2,816	2,688,453
Portuguese and Spanish. . .	2,245	36,89,708	1,408	476,392
Total.	13,392	\$91,050,895	11,071	\$70,136,331

Hawaiian Corporations, 1914.

Courtesy of Treasury Department.

Class.	Total No.	Number and Capital. Incorporated before and after Aug. 12, 1898.				Total.
		No.	Before.	No.	After.	
Agriculture....	176	64	\$44,235,750	112	\$37,533,850	\$ 81,769,600
Mercantile.....	549	85	21,703,625	464	46,266,468	67,970,093
Railroad.....	12	5	7,370,000	7	9,750,000	17,120,000
Street Car.....	2	..	.....	2	1,200,000	1,200,000
Steamship.....	1	1	2,250,000	..	.....	2,250,000
Bank.....	5	1	600,000	4	1,300,000	1,900,000
Savings & Loan	11	1	1,000,000	10	720,000	1,720,000
Trust.....	6	1	200,000	5	700,000	900,000
Insurance.....	3	..	.....	3	800,000	800,000
Eleemosynary..	141	34	.....	107	.....	.....
Total.....	906	192	\$77,359,375	714	\$98,270,318	\$175,629,693

Nationality of Plantation Labor, July 31, 1913, and June 30, 1914.

Courtesy Bureau of Labor and Statistics, Hawaiian Sugar Planters' Ass'n.

	1913	1914		1913	1914
Americans	663	624	Japanese	24,282	24,694
Spanish	2,174	1,714	Chinese	1,126	2,123
Portuguese	4,162	3,611	Koreans	1,402	1,365
Russians	93	73	Filipinos	8,101	9,258
Hawaiians	1,040	979	Others	308	312
Porto Ricans	1,524	1,460			
			Total	45,875	46,213

Taxes by Division and Counties for the fiscal year ending June 30, 1914.

Courtesy of J. H. Fisher, from Auditing Department Report.

Division of Taxes.	Honolulu	Maui	Hawaii	Kauai	Total.
Real Estate Taxes.....	\$ 529,133.23	\$ 200,594.62	\$ 240,018.12	\$ 98,521.55	\$1,068,267.52
Personal Property Taxes.....	425,368.80	128,335.88	189,044.05	101,345.40	844,094.13
Bicycles and Tags.....	2,912.60	138.60	673.00	338.80	4,063.00
Automobiles.....	17,928.60	4,703.25	6,720.05	4,530.10	33,882.00
Carriages, Carts, Etc.....	12,872.80	4,010.00	7,520.00	4,030.00	29,032.80
Brakes and Sulkies.....	576.00	248.00	880.00	630.00	2,334.00
Road Tax.....	48,353.03	17,339.56	33,079.78	16,924.95	115,697.32
Poll Tax.....	24,020.60	8,630.89	16,501.12	8,437.50	57,590.20
School Tax.....	47,972.60	17,260.21	32,931.04	16,873.75	115,037.60
Dogs and Dog Tags.....	2,282.63	453.37	2,267.80	633.45	5,637.25
10% Penalty.....	3,506.45	139.72	710.14	89.50	4,445.81
Advertising Costs.....	254.95	29.50	76.00	4.50	364.95
Court Costs and Interest.....	16,435.60	575.46	1,583.71	208.65	18,803.51
Income Tax.....	324,856.20	42,127.22	20,640.46	9,872.45	397,496.33
Special Terr. and Income Taxes.....	129,883.85	6,307.64	3,060.35	1,430.10	140,681.94
Total.....	\$1,586,358.12	\$ 430,893.92	\$ 555,705.62	\$ 264,470.70	\$2,837,428.36

Comparative Statement of Taxes Collected during the Calendar Years 1908-1913.

Courtesy of J. H. Fisher, from Auditing Department Report.

	1908	1909	1910	1911	1912	1913
Real Estate.....	\$ 655,861.42	\$ 673,302.36	\$ 749,113.85	\$ 773,143.95	\$1,016,068.14	\$1,058,539.75
Personal Property.....	640,162.05	714,417.54	728,029.56	742,703.57	912,240.02	892,356.07
Bicycles and Tags.....	1,875.20	1,984.50	2,023.50	2,016.70	3,075.60	3,870.65
Automobiles.....	3,720.00	4,920.00	8,186.10	13,709.80	18,710.95	27,167.80
Carriages, Carts, Etc.....	26,892.00	27,200.00	26,475.00	27,005.00	27,437.35	30,127.80
Brakes and Sulkies.....	2,732.00	2,580.00	2,434.00	2,522.00	2,256.70	2,260.00
Dog and Dog Tags.....	6,370.30	5,920.70	5,531.30	5,957.20	5,653.42	5,764.24
Poll.....	47,733.00	47,882.00	48,560.00	49,542.00	48,197.11	56,494.73
Road.....	95,020.00	96,177.00	97,120.00	99,084.00	96,753.44	112,995.05
School.....	95,024.00	95,764.00	97,120.00	99,082.00	96,336.70	113,580.24
10% Penalty.....	7,102.00	7,886.86	7,134.62	7,061.25	3,326.87	4,487.74
Advertising Costs.....	845.00	1,032.50	879.10	884.00	801.95	413.25
Costs and Interest.....	6,638.45	6,726.13	7,359.71	6,040.69	8,203.54	18,526.34
Income.....	307,620.20	474,415.26	402,099.63	445,057.13	529,077.00	495,039.85
Special Income.....	.....	196,277.24	367,232.92	395,393.43	487,796.10	230,563.22
	\$1,897,685.64	\$2,356,486.09	\$2,549,299.79	\$2,668,902.72	\$3,255,934.89	\$3,052,105.73

TABLE OF RAINFALL, Principal Stations.

Compiled from Weather Bureau Reports.

Stations	Observer	1913					
		July	Aug.	Sept.	Oct.	Nov.	Dec.
HAWAII							
Waiakea	D. Forbes.....	7.86	8.28	6.32	5.67	31.86	8.81
Hilo (Town)	L. C. Lyman....	7.14	7.69	6.39	5.40	31.40	8.30
Ponahawai	J. E. Gamalielson ..	10.18	9.51	6.13	6.77	39.31	9.53
Pepeekeo	Pepeekeo Sugar Co...	6.00	6.57	5.29	5.47	19.88	9.44
Hakalau	W. F. Klatt.....	7.62	10.49	5.58	7.08	25.84	8.64
Laupahoehoe	E. W. Barnard....	4.45	9.58	2.35	0.81	9.29	16.12
Ookala	F. Mackenzie....	3.02	6.03	3.30	1.39	22.89	11.61
Kukaiau	F. F. Bechert....	1.64	3.85	2.30	0.63	22.52	15.35
Paauhau	L. Wilson.....	1.43	3.60	3.23	0.17	12.96	15.51
Honokaa	H. R. Sims.....	1.80	4.09	1.76	0.20	13.38	19.47
Waimea	F. Pinho	1.27	1.63	0.94	0.66	7.89	3.13
Kohala	Dr. B. D. Bond....	2.69	3.57	2.05	0.70	7.10	7.04
Holualoa	Jno. Gabeler....	8.47	5.17	4.71	8.15	4.89	0.87
Kealahakua	Rev. S.H. Davis....	8.92	7.48	1.84	8.56	5.79	1.19
Naalehu	C. H. White....	0.56	2.25	1.53	2.20	14.62	3.32
Pahala	Haw. Agr. Co....	0.21	1.88	0.71	2.87	11.38	1.79
Volcano House..	Geo. Lycurgus....	3.31	5.21	5.21	1.91	19.13	1.54
Olaa (17 miles) ..	Olaa Sugar Co....	13.49	11.82	5.15	9.08	37.65	8.33
Kapoho	H. J. Lyman....	3.77	5.03	8.14	5.53	14.40	3.67
MAUI							
Haleakala Ranch	L. von Tempsky...	0.31	3.32	1.58	3.01	7.49	5.74
Puuomalei	A. McKibbin....	2.42	5.37	3.67	2.29	16.12	10.95
Makawao	F. W. Hardy.....	1.28	3.73	2.55	3.01	10.62	5.97
Kula	Geo. Copp.....	2.21	1.98	.00	7.35	1.14	.00
Haiku	Mrs. L. B. Atwater..	2.66	5.43	3.07	2.02	13.29	6.19
Keanae Valley..	W. F. Pogue.....	8.96	14.77	6.73	12.91	43.49	24.37
Nahiku	Nahiku Rubber Co...	9.55	13.90	7.59	12.16	26.05	14.03
Wailuku	Bro. Frank.....	0.37	1.43	0.45	1.00	2.87	2.90
Hana	Geo. O. Cooper....	3.13	5.67	1.91	4.80	8.34	6.85
OAHU							
Honolulu	U. S. Weather Bureau	0.18	1.14	0.81	0.26	2.96	0.52
Kinaiu Street....	W. R. Castle....	0.34	0.79	0.72	0.73	4.50	0.63
Manoa	C. S. Desky.....	3.73	3.74	3.47	2.79	15.05	7.14
Nuuanu Ave.....	S. Mott-Smith....	1.21	2.49	1.20	1.20	6.35	1.36
Electric Lt. St..	A. Walker.....	4.79	6.71	3.34	2.33	17.67	5.08
Luakaha	L. A. Moore.....	5.14	9.47	4.21	4.92	30.31	16.76
Waimanalo.....	A. Irvine.....	0.84	2.59	1.16	2.04	2.26	3.12
Maunawili.....	Jno. Herd.....	1.29	6.51	4.37	3.71	8.57	8.77
Ahuimanu.....	H. R. Macfarlane....	2.45	9.45	5.80	5.49	8.98	10.00
Kahuku	W. T. Vorfeld....	0.91	2.49	1.41	3.00	3.08	1.07
Ewa Plantation..	I. A. Hattie....	0.53	3.13	1.04	1.05	1.47	0.08
Schofield Brks..	C. C. Watters....	0.90	2.80	2.09	2.90	4.21	1.10
Waiawa	A. Lister.....	1.94	5.27	4.79	6.21	4.88	0.65
Waimalu	Hon. Plan. Co....	0.68	5.14	2.34	3.00	3.82	0.28
KAUAI							
Grove Farm.....	G. N. Wilcox....	1.55	2.38	2.50	4.68	9.75	3.04
Kealia	Makee Sugar Co....	0.97	1.39	2.22	1.93	5.08	2.04
Kilauea	L. B. Boreiko....	3.75	3.45	3.47	3.73	15.03	5.87
Eleele	McBryde Sugar Co...	0.11	0.94	0.98	4.73	4.73	0.18
Kukuiula.....	F. L. Zoller....	1.05	0.70	2.10	3.82	6.53	0.50
Waiawa	G. Andreson....	0.89	0.25	0 24	3.28	3.30	.00

Throughout the Hawaiian Islands, 1913-1914.

By Wm. B. Stockman, Section Director. Continued from last Annual.

Locality	Feet Elev.	1914						
		Jan.	Feb.	Mar.	April	May	June	Year
HAWAII								
Waiakea	50	6.98	4.97	7.13	7.35	17.42	23.56	136.21
Hilo	100	7.02	4.39	6.38	11.12	20.48	25.47	141.18
Ponahawai	500	9.19	3.02	4.78	11.05	24.45	24.97	158.89
Pepeekeo	100	8.48	4.89	9.39	8.18	22.28	15.92	121.79
Hakalau	200	8.53	2.93	12.14	11.71	30.16	18.86	149.58
Laupahoehoe	100	14.47	2.05	11.06	11.24	29.57	20.78	131.77
Ookala	400	13.47	1.93	10.31	11.57	25.23	17.08	127.83
Kukaiau	250	13.22	3.88	10.00	7.73	25.92	11.30	118.34
Paauhau Mill	300	12.71	3.28	12.21	7.26	24.20	6.54	103.10
Honokaa	470	13.13	2.91	10.53	8.77	18.66	7.78	102.48
Waimea	2720	9.98	1.92	4.64	3.09	5.02	4.31	44.48
Kohala Mission	521	6.48	0.61	6.12	3.06	10.29	7.85	57.56
Holualoa	1350	3.36	3.47	3.79	4.10	7.31	4.20	58.49
Kealakekua	1580	3.47	2.56	3.81	3.60	5.04	5.29	57.55
Naalehu	650	3.77	1.68	4.55	1.29	3.59	4.78	44.14
Pahala	850	4.42	1.40	3.93	1.39	2.96	2.59	35.53
Kilauea Crater	4000	3.97	2.10	6.12	6.91	8.86	10.20	74.47
Olaa Puna	1530	12.19	4.85	7.88	13.13	29.61	31.23	184.41
Kapoho	110	10.41	7.57	7.34	5.75	7.96	17.50	97.07
MAUI								
Haleakala Ranch	2000	9.40	0.67	6.39	3.31	8.31	0.56	50.09
Puuomalei	1400	12.01	1.19	11.86	10.07	17.03	8.46	101.44
Makawao	1700	9.54	1.08	5.01	6.41	8.24	1.64	59.08
Erehwon	4000	5.75	2.21	5.25	2.28	2.47	2.55	33.19
Haiku	700	10.29	0.94	8.79	10.52	12.43	7.80	83.43
Keanae	1000	26.14	2.68	16.75	35.14	59.76	35.71	287.41
Nahiku	700	14.65	3.90	17.39	17.83	34.27	23.72	195.04
Wailuku	250	5.58	0.41	8.49	4.49	5.83	0.55	34.37
Hana	145	5.89	1.77	20.42	14.91	14.08	5.22	92.99
OAHU								
U. S. W'th'r B're'u	108	2.34	2.41	5.00	2.03	0.92	0.45	19.02
Kinai Street	50	2.54	2.54	6.19	2.00	0.87	0.74	22.59
Woodlawn	300	8.11	3.31	3.47	6.85	8.33	12.50	78.49
Nuuanu Avenue	50	3.87	2.77	6.17	4.10	2.29	3.46	36.47
Nuuanu Elec. St'n	405	6.91	3.22	6.22	9.37	3.90	8.02	77.56
Nuuanu Wat'r Wk's	850	10.60	4.60	0.73	19.77	15.02	14.88	136.41
Waimanalo	25	4.25	1.75	1.30	9.36	3.94	0.81	33.42
Maunawili	250	6.68	2.80	11.54	17.81	11.88	6.20	90.13
Ahuimanu	350	5.54	3.27	10.87	13.15	7.07	8.16	90.23
Kahuku	25	3.29	1.38	17.41	3.01	2.60	0.90	40.55
Ewa	50	1.65	1.32	4.60	0.85	1.08	0.29	17.09
Leilehua	990	3.96	4.34	6.66	1.00	2.95	1.36	34.27
Waiawa	675	3.39	1.42	6.98	2.28	2.34	2.79	42.94
Ewa	200	2.48	1.14	5.80	2.33	3.12	1.01	31.14
KAUAI								
Lihue	200	3.45	1.03	4.78	2.89	7.79	3.77	47.61
Kealia	15	4.16	0.45	5.16	5.70	7.02	2.71	38.83
Kilauea	342	6.72	1.15	4.41	7.41	9.09	3.96	68.04
Elele	150	2.43	0.62	2.78	1.29	3.40	1.17	23.36
Koloa	100	3.43	0.55	2.85	2.00	8.20	3.20	34.93
Waimea	30	2.54	0.43	2.98	1.20	3.76	0.27	19.14

SUMMARY OF METEOROLOGICAL OBSERVATIONS, HONOLULU, 1913-14.

Compiled from U. S. Weather Bureau Records, by Wm. B. Stockman, Section Director.

(Continued from preceding Annals.)

MONTH	BAROMETER		RAIN- FALL	REL. HUM.		TEM- PERATURE		MEAN TEMPERATURE				Cloud Amt.	Wind Velocity
	8 a.m.	8 p.m.		8 a.m.	8 p.m.	Max.	Min.	6 a.m.	2 p.m.	9 p.m.	Mean of Max. and Min.		
(July	30.04	30.02	0.18	64	67	86	70	74.5	81.4	76.2	78	5.3	8.0
(August.....	29.98	29.97	1.14	67	71	86	72	75.4	82.8	77.1	79	4.3	8.0
September	30.00	30.00	0.81	65	69	86	70	74.9	81.8	76.7	79	5.2	7.4
October	29.98	29.98	0.26	68	74	87	70	73.5	80.6	75.8	78	4.2	5.7
November	30.05	30.03	2.96	72	73	85	67	73.3	77.0	74.2	75	6.7	10.1
(December	30.04	30.02	0.52	68	70	81	63	69.4	75.6	70.7	72	4.2	7.2
(January	30.07	30.06	2.34	66	67	78	60	66.4	71.9	67.7	69	5.6	9.8
(February.....	30.05	30.02	2.41	69	74	81	61	67.0	73.6	69.7	71	3.4	5.4
March	30.02	29.99	5.00	66	71	80	57	67.1	73.9	69.1	71	5.1	7.7
April.....	30.04	30.02	2.03	67	71	82	60	69.4	75.9	71.4	73	4.3	8.9
(May.....	30.01	30.00	0.92	68	73	83	66	70.8	77.4	72.4	74	5.4	9.0
(June.....	30.03	30.02	0.45	67	70	83	69	73.6	79.7	74.8	77	3.9	8.9
Year.....	30.03	30.01	19.02	67	71	87	57	71.3	77.8	73.0	75	4.8	8.0

1913

1914

RULERS OF HAWAII: THEIR BIRTH, ACCESSION, LENGTH OF REIGN, ETC.

(Compiled for the ANNUAL, from the best recognized authorities.)

Name.	Time and place of Birth.	Began to Reign.	Age on Acc'n.	Date and place of Death.	Age.	Length of Reign.
Kamehameha I.....	Nov.—1737, in Kohala.....	—1782.....	45 yrs.	May 8, 1819, in Kailua.....	81 yrs. 6 mos.	37 yrs.
Kamehameha II.....	—1797, in Hilo.....	May 8, 1819.....	22 "	July 13, 1824, in London.....	27 "	5 " 3 mos.
Kamehameha III.....	Mar. 17, 1813, in Keauhou.....	1 Mar. 17, 1833.....	19 "	Dec. 15, 1854, in Honolulu.....	40 " 9 "	21 " 9 "
Kamehameha IV.....	Feb. 9, 1834, in Honolulu.....	Dec. 15, 1854.....	20 "	Nov. 30, 1863.....	29 " 9 "	8 " 11½ "
Kamehameha V.....	Dec. 11, 1830.....	Nov. 30, 1863.....	33 "	Dec. 11, 1872.....	42 "	9 " 11 days.
Lunalilo.....	Jan. 31, 1835.....	2 Jan. 9, 1873.....	38 "	Feb. 3, 1874.....	39 "	1 " 25 "
Kalaka'ua.....	Nov. 6, 1836.....	3 Feb. 12, 1874.....	37 "	Jan. 20, 1891, San Francisco.....	54 " 2 "	16 " 11¼ mos.
Liliuokalani.....	Sept. 2, 1838.....	Jan. 29, 1891.....	52 "	Deposed Jan. 17, 1893.....		2 " nearly

1 Following a period of regency, from June 6, 1825, under Kaahumanu and Kalaimoku, during his minority.

2 3 Elected by vote of Nobles and Representatives.

HAWAIIAN GOVERNMENT CHANGES SINCE THE MONARCHY.

Form.	Date Effectd.	Ruler.	Office	REMARKS.
Provisional Government.....	Jan. 17, 1893.....	Sanford B. Dole.....	President.....	Till change to a Republic, July 4, 1894.....
Republic of Hawaii.....	July 4, 1894.....	".....	".....	Till Annexation, with United States, June 14, 1900
Territory of Hawaii.....	June 14, 1900.....	".....	Governor.....	Resigned November 23, 1903
	Nov. 23, 1903.....	Geo. R. Carter.....	".....	August 15, 1907.....
	Aug. 15, 1907.....	Walter F. Frear.....	".....	November 29, 1913.....
	Nov. 29, 1913.....	Lucius E. Pinkham.....	".....	

FLOWERING TREES OF HONOLULU

AMONG the pleasing attractions of Honolulu to her increasing body of visitors and comfort of her residents, not the least may be mentioned its varied foliage, wherein those of a botanical turn of mind find rare enjoyment in the variety of tree, shrub, and vine, that embowers the residence districts of the city, and line the roadway in many sections. But to the surprise of many interested inquirers comparatively little of this luxuriant foliage is indigenous to these Islands, especially in the variety of flowering trees and vines that bid fair to make the "Crossroads of the Pacific" famous for its summer beauty, for this is the period when most of our blossoming time prevails.

And not only are we indebted to other tropic and semi-tropic lands for our enrichment in this respect, but it is largely the product of recent years in searching for those in distant lands deemed likely to acclimatize readily in Hawaii.

Articles of value and interest on the above subject by authoritative writers have appeared in several numbers of the HAWAIIAN ANNUAL, notably "What a botanist may see in Honolulu," by Dr. A. B. Lyons, in 1900; "Choice of street trees for Honolulu planting," by R. S. Hosmer, in 1913, and "Ornamental plant-life of Honolulu," by Willis T. Pope, in 1911, besides the more indigenous botanical articles of Rev. J. M. Lydgate, and Joseph F. Rock.

In response to the many inquiries on the subject, this paper will deal more particularly with the principal flowering trees, etc., compiled largely from the above authorities, that claim the attentive care of our residents for their enjoyment and the beautifying of our city, and incidentally the admiration of visitors.

One writer has said: "With flowering trees the number of desirable kinds makes an embarrassment of riches," at the head of which, probably, stands the *Poinciana regia* for brilliancy of color, and naturally among the first to attract the attention of strangers. While a native of Madagascar it is widely distributed, its introduction here being credited to Dr. Wm. Hillebrand about 1865. It forms a fine tree of medium size, the smooth trunk expanded at the base laterally into buttresses corresponding with the principal roots, the foliage arranged in horizontally spreading

layers consisting of regular mimosa-like leaves, as beautiful as the fronds of a fern. Were it not for the great flat coarse pods, twelve to sixteen inches long by one and a half wide, you would say that in the freshness of its new foliage at the close of the rainy season it had no peer for beauty among the shade trees of the city. By and by it begins to put on its summer adornments. Here and there among the branches burns a dazzling glow of crimson. Day by day new flames burst out, and then they spread and coalesce until the whole tree is ablaze. Occasional shades of salmon red is met with. How the landscape is lighted up by those masses of solid color. In another tree such gaudiness of attire would seem vulgar. Here it is regal. Gold and crimson belong of right to this queen, for whom it is right too, that the ground beneath should have its thick carpet of the unfaded fallen petals.

From its blaze of color it is sometimes erroneously called the flame tree, which confuses it with a much less attractive Australian tree of that name. The flowering period of the poinciana regia is generally June-August, but varying some years earlier, or later, according to weather conditions.

It is trees of the Cassia family, Caesalpineae, especially that light up with color the spacious grounds about Honolulu residences. The species of cassia which are shrubs with rambling branches rather than trees have all yellow flowers, and many of them are perennial bloomers. The Caesalpinias are sometimes shrubs, sometimes large trees, the blossoms being commonly yellow. A very stately tree of a related genus (*Peltophorum*) is the yellow poinciana, a massive head of finely cut foliage; the ample flower clusters giving place to purple pods so numerous as to give the whole tree their ruddy hue. Its attractiveness matures as the *Poinciana regia* declines.

Very conspicuous throughout the summer months is the tree known in Honolulu as the golden shower, *Cassia fistula*, or more prosaically as the pudding-stick tree, and to the medical fraternity familiar as Purging cassia. The foliage is comparatively scanty, consisting of pinnate leaves with large entire leaflets. The cylindrical deep brown pods, fifteen inches or more in length and three-fourths of an inch in diameter, are rather ornamental than otherwise as they sway with every breeze. In spring the

buds appear in drooping panicles, and then for four months there is a continuous succession of the pure primrose yellow fragrant blossoms that justify the popular name of the tree. The petals, which are of a delicate rich color, are really coarse in texture; this explains why they last as they do ten days or a fortnight without noticeable change.

An allied species with foliage resembling the locust except that the heavy fronds have a peculiarly graceful droop, known in the early years of its introduction as *Cathartocarpus*. The flowers are produced in clusters, which closely surround the boughs of the previous year's growth. They resemble in size, shape and color the largest, deepest colored crab apple blossoms, but the tree remains apparently in full bloom ten or twelve weeks, its season beginning in May, a joy to the eye to behold. There is in fact, as in the golden shower, a succession of blossoms, no one lasting probably more than about ten days. This is known locally as the pink shower (*Cassia grandis*), with a variety distinct enough to be called the pink and white shower (*Cassia nodosa*) from the lighter shade of its bloom. There are several pronounced sports from this known type of pink and white shower in that the blossoms take on more of a cream color and the usually sprangling branches more disposed to a symmetrical form. While known locally as *Cathartocarpus*, it is now classified as *Cassia nodosa*. Of late years several streets in the residence section have been lined with these pink showers to afford shade and beauty, and bids fair in time to vie materially with the cherry-blossom season attraction of Japan.

Another tree that is justly attracting more and more attention is the *Jacaranda mimosaeifolia*, because of its profusion of blue flowers, which hang in graceful wisteria-like clusters. It grows taller than the showers, with light feathery foliage. So far, only individual trees are to be met with of mature size to manifest their rightful claim as an important contributor to Honolulu's floral charm, but it will not be many years before they will be widely distributed, as they do well also in the higher elevations where not too much exposed to the wind. Its common name is Brazilian Rosewood. Its flowering season is usually over by July.

While not in the forefront in floral displays, one of the finest

exotic shade trees of Honolulu is the samang, locally known as monkey-pod. This is a great spreading tree of rapid growth, more prominent a decade or two ago than now, many having been sacrificed to permit the building improvements from time to time. Like many other plants of the cassia family it has the habit of folding its leaflets at nightfall, giving the tree a peculiar wilted appearance quite in contrast with its ordinary aspect, which is one of exuberant vitality. The foliage may be unattractive in the winter months, but only preparatory to its glorious rehabilitation, which culminates with its blossoming time, usually August, when for weeks the deep rich green of its foliage is seen as through a haze or mist of rose-purple. The blossoms, like those of other acacias, are tassels consisting mostly of the conspicuous filaments. A tree twenty years old may have a bole twelve or fifteen feet in girth, and cover with its shade a circle of a hundred feet in diameter. This Samang has a pale yellow flowering variety which generally waits the decadence of others before putting forth her fragrant bloom.

In the line of shrubs the Hibiscus is rapidly developing marvelous attractions through its responsiveness to scientific culture whereby many changes are being wrought on the various well known varieties, in both the single and double species, though the collection of singles largely predominate. As an ornamental hedge its gorgeous, ever-blooming scarlet and pink flowers brighten our thoroughfares in all directions, and plantings en masse of contrasting varieties, or for the cultivation or propagation of new varieties, are seen in many private grounds, while those specializing on new named flowers to demonstrate their possibilities are an increasing army of enthusiasts.

An annual exhibition of Hibiscus blooms has been held the past three years, in the fall, each of which have been revelations from the increasing varieties of new blends, illustrative of its possibilities with scientific care. From pure white they run into all shades or blends of pink, red, cream, and yellow. Several species of this plant are indigenous to these islands, the others being introductions from abroad from time to time.

Another floral contributor throughout the city is the free blooming Oleander, a plant not of Australian origin as generally supposed, but from the Mediterranean-Indian region. It is not

the spindling growth of tub plants, as seen in some countries, but grown in places as a shelter hedge, though more frequently in clumps here and there in private grounds. The varieties embrace the single white, pale pink, pale yellow, and of recent years a dark red—as yet a rarity. The doubles are all confined to the deep pink shades, some of which vie with the choice rose in their fullness and beauty.

The Plumieras, of which there are two, though ungainly in growth, especially so when for a month or two each year the leaves drop from their club-like stems, but they make ample atonement the rest of the year in the profusion of their fragrant, exquisitely molded, delicately tinted starlike blossoms, one taking on more of the yellow shade and somewhat smaller in size.

In all directions does the Bougainvillea vine, surmounting arbors, or entwining neighboring trees, command notice during its blossoming season from its mass of magenta color, though more pleasing varieties of color in salmon, brick and cherry red, and orange scarlet are now met with in various sections of the city. At its blossoming time the deep green of its foliage will be first flecked with a ruddy hue, but soon patches of color will spread and become confluent until the whole arbor, or tresspassed neighbor, is a mass of purple. What is remarkable in all is that it is not the flowers that are thus colored, it is only the bracts that enclose the inconspicuous flower clusters.

Another vine often trained over fences, porches, and barns, and reaching the tree tops, a Bignonia, but unlike the Trumpet Creeper, makes the Bougainvillea envious when it puts on its gala dress. Here again is solid color, but no longer the suggestions of the dye vat. It is the color of canary yellow, but full of lights and shades such as belong to veritable flame, and the plant wears this gorgeous attire wholly concealing the every day garment of green which it covers, for weeks at a time, and more than once in the year.

The marvel of snowy floral beauty must be accorded the night-blooming cereus (*Cereus triangularis*), when the ungainly fleshy stems, which pile themselves on stone walls, making the semblance of an evergreen hedge clothe themselves as they do once in three or four weeks through the summer months with their giant lily blossoms. Such has long been a noted attraction of the

Oahu College grounds on both Punahou street and Wilder avenue, several hundred feet in length, whereon it is a common thing to see two thousand blossoms at once—and sometimes there have been three or four times that number. As the name indicates, the buds unfold as the evening shadows fall, till a great snow bank presents itself, but their glory departs with the morning sun, although the following night sees it restored as the plant blossoms profusely two nights in succession, with perhaps a few belated flowers the third night, then there will be a rest while a new crop of buds develop. The flowers are provided each with a score of stigmas and a thousand stamens—by actual count on more than one occasion.

In addition to the foregoing, quite a variety of other flowering shrubs, vines, and varicolored-leaf plants intensify the attractiveness attending many Honolulu homes, not a few of which show marked individuality.

HONOLULU SIXTY YEARS AGO

Reminiscences of THOS. G. THURM.

[Continued from the Annual for 1914, by request.]

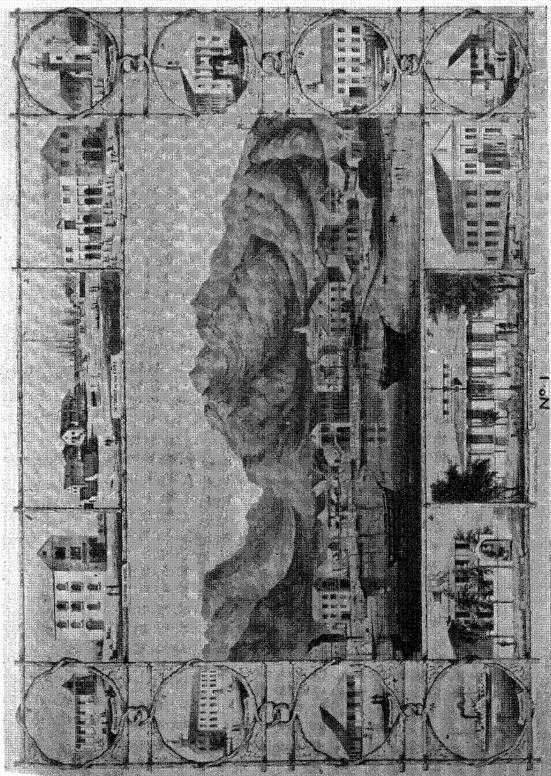
IN THE narration of the leading events and activities which characterized Honolulu in 1853, the year of my arrival, was the impression of its proving a momentous year for the future of Hawaii. The building boom noted of that year, notwithstanding the prevailing epidemic, was the inauguration of larger and better business structures than any that had preceded. The ground work of the Makee block being completed, as also the corner stone laying of the Steam Flour Mill and Foundry (which marked the closing month of the year) these structures were pushed forward with vigor. At this same time the twin building of Swan & Clifford, on Queen street at the foot of Kaahumanu, reared its two stories and massive pitched roof to become a prominent water-front object on the site now occupied by the S. C. Allen Block. The building was erected by Chas. W. Vincent, and termed by the natives "Hale Mahoe." Upon its completion Swan & Clifford moved their ship-chandlery into the Ewa-side store on the first floor, opening same March 2, 1854, with a lunch

by Victor Chancerel of the French Hotel, which insured a feast of good things. Cyrus W. Jones & Co., liquor dealers, occupied the other division. Mr. A. J. Cartwright moved into and occupied the Waikiki-side of the second story, while the U. S. Consulate located in the Ewa side. Two weeks before Swan & Clifford's opening, Melchers & Co. took possession of their new two-story coral building, corner of Merchant and Kaahumanu streets, celebrating the event February 20th, by an elaborate lunch. The store was fitted with fine koa counters and glass-enclosed shelving for much of the fine quality piece goods for which this firm was noted.

During this era of activity quite an influx of mechanics from San Francisco occurred that quickly affected local customs. Up to this period workmen "turned to" at 6 a. m., then knocked off at 7:30 for breakfast and resumed their labors at 8 o'clock. They changed all this to beginning the day's work after breakfast, at 7 o'clock. The principal house carpentering establishments were: C. W. Vincent, on King; C. H. Lewers and S. Johnson, on Fort, and F. Hatcher, on Nuuanu streets. Among the men added to Vincent's shop was a carver in wood that did some excellent work, of which a life-size alighting-poised eagle on a star emblazoned globe that graced the grounds of the American Club during the organization's existence, and other prominent places for many years later, fully attested. Wood-working machinery also came into use at this time, facilitating sash, blind, and door work, materially.

The court house, but recently completed, had its assembly room changed by an added flooring to effect two stories, as the rest of the building. This was completed by May, and thereafter for some time was held the regular Sunday services of the Second Foreign Church, Rev. T. E. Taylor, pastor—subsequently the Fort Street Church. Mr. E. G. Beckwith, the then principal of the Royal School, was its Sunday school superintendent. The church choir, of which I think he was the leader, was noted then as it has since been, for its excellent voices and high class music.

In March the government offices moved from Honolulu Hale on Merchant street to the Pelly premises on Hotel street, (site of present Y. M. C. A. building), having in ten years outgrown the limit of their quarters of the formative period of constitu-



tional government. Not a little opposition was manifest at this removal to so distant a point (at that time) from the business center. In the changes the Registrar's office moved into the Court house. With some alterations the Post Office shortly after moved into Honolulu Hale from the Polynesian office adjoining, with H. M. Whitney's stationery and bookstore on the Waikiki side, our first legitimate establishment in those lines.

In the erection of the Makee block of three stories public interest was attracted by its pressed brick fronts and granite trimmings, brought out for this purpose from Boston and the first of the kind here. The building was the largest business structure up to that time, nor did it take second place till many years afterward. An historic account of this building and its various tenants was given in the *ANNUAL* for 1910, at the time of its alteration and enlargement for its present lessees, T. H. Davies & Co., Ltd. Its house warming, given jointly by Captain Makee, Dr. E. Hoffman and Aldrich & Bishop, occurred July 31, 1854.

The first test of the steam engine of the Machine shop (of D. M. Weston) and Flour mill under construction, which took place February 10th, was a memorable event, being the pioneer of its line, and its opening on completion, June 1, 1854, drew an interested crowd of natives and others to watch the movements of the engine, to which they gave the name of "Ulakoheo." The circular saw was another new feature, and proved an active agent in facilitating building operations. The flour-mill department, under Messrs. Hunter and Graves, was ready by the time of marketing the wheat crop, most of which was produced on East Maui. The first run of flour was made June 21st, and proved of satisfactory quality that gave much encouragement to all parties concerned.

Reference was made in my former paper to the legislative session of 1853 as being the last with which Kamehameha III had to do. This statement is corrected to 1854, for at that time and for several years afterward our law-makers met annually, not biennially. The session proved an important and stormy one, and closed abruptly through disappointed government measures. Among the projects mooted for its consideration was the Esplanade or Water-lots movement to reclaim some forty-three acres of shore front below the fort and toward Diamond Head.

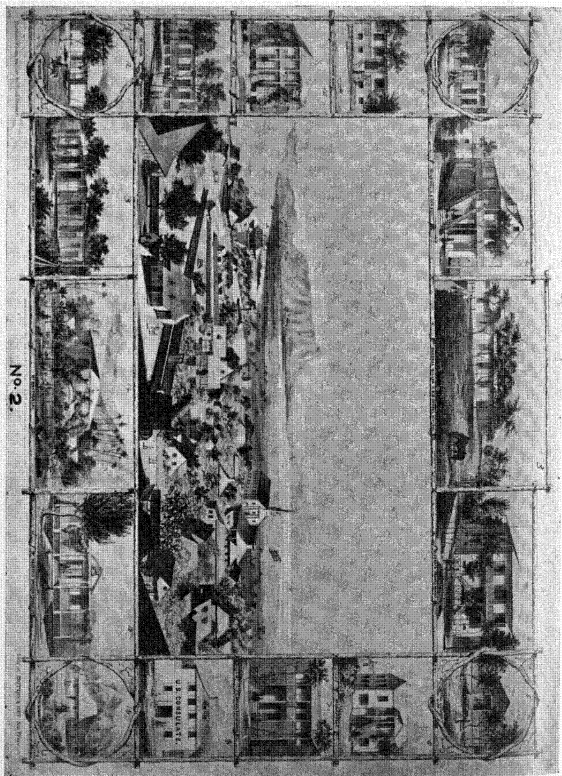
to give 232 lots, besides streets, two wharves, and 1800 feet of water front, at an estimated expense of \$155,000, for which a loan was proposed. Some criticism of these figures were made showing that the project would require fully \$287,370. Neither set of figures appear to have included the value of the tract to be improved, title to which was claimed by Queen Kalama.

Kamakau, a member of the house that session, in his account says that a price of \$15,000* had been agreed upon in Privy Council for the property for the proposed object, subject to legislative approval. The matter was debated in the lower house an entire week in committee of the whole on a valuation of \$30,000, finally agreeing on \$20,000. Upon taking up the subject again the Attorney General said the queen had no title, as it already vested in the government. The king appealed from this stand and called in John Montgomery, the queen's legal advisor, to defend her interest. In a gathering upon the subject at J. Kaeo's residence the English Consul General, Wm. Miller, appeared and offered \$80,000 for the property which the king refused, not wishing it to pass into foreign hands, whereupon a company, of which Dr. Judd was said to be the chief, made an offer of \$100,000 for it, which was also declined. Kamakau further said: "Agreement was reached finally in the legislature for the purchase of the queen's Waikahalulu lots, from Pakaka to Kakaako, for the sum of \$22,000."

Harbor dredging was considered at this session and needs of deepening the entrance, toward which public work \$40,000 was appropriated, though there was no facilities in sight. That came later by the government importation of machinery and construction of vessel and scows here, including the steam tug *Pele*.

The annexation movement of that period was not referred to in the king's opening speech of that session, though it was common knowledge and became a subject of much discussion, and pointedly so, when, from a statement in the N. Y. Herald to

* Note.—The Privy Council record on this subject shows that John Young, under date of April 8th, laid before the council the king's offer to relinquish claim to all rights of the queen to Waikahalulu, adjoining land of Victoria Kamamalu, called Kaakaukukui, on sea side of Honolulu for \$25,000, for the sake of peace, to the government. Lee, as also Liholiho, would favor \$15,000 by way of quieting title and avoiding litigation.



the effect that the king had applied to U. S. Commissioner Gregg for immediate annexation, Prince Liholiho, in the house of nobles, asked the minister of foreign affairs (Mr. Wyllie) if steps of this nature were in secret progress. With diplomatic tact the reported overtures were neither admitted nor denied.

Information reached the government that a fillibustering party was organizing on the Coast to seize the islands. Minister Wyllie, in March, notified the privy council of alarming reports from various credible sources whereby he believed the king's authority to be in danger.* In consequence, the Minister of Finance was authorized to allow the Secretary of War \$5,000, the expenditure of which was to be strictly accounted for to the legislature. Effort was made in the house for such defense funds which failed of passage, much to the discomfiture of the government, proving another disappointment of the session, and closed it abruptly August 12th, the king proroguing the legislature with these words: "In the absence of adequate means to suppress insurrection I must trust to Providence for the future of my kingdom, and to your loyalty to recommend by word and deed quiet subjection to law and order."

I omitted to mention in last paper the opening of the Varieties theater, which notable event for the town took place September 12th. 1853. This was a two-story building formerly used as a store that stood lengthwise on King street, partly on the site of the present Von Holt block. A tall framed structure was erected in its rear as an addition, enclosed with brown cotton for the gallery and auditorium, the main building affording but room for the boxes, besides the stage and green room neces-

* Note.—In this connection the following royal proclamation was gazetted a few months later:

"Whereas, it has come to my knowledge from the highest official sources, that my government has been recently threatened with overthrow by lawless violence; and where, the representatives at my Court of the United States, Great Britain and France, being cognizant of these threats, have offered me the prompt assistance of the naval forces of their respective countries, I hereby publicly proclaim my acceptance of the aid thus proffered in support of my Sovereignty. My independence is more firmly established than ever before.

Keoni Ana,

Palace, 8th December, 1854.

By the King and Kuhina Nui,

Kamehameha.

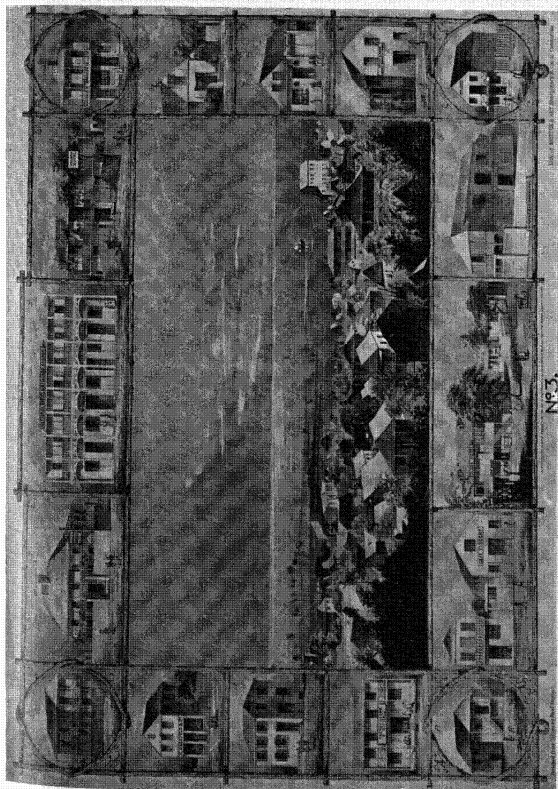
R. C. Wyllie..''

sities. In its alteration a circus ring was constructed, over which was built the stage, as if planned for occasional equestrian performances, the enterprising proprietor, William Foley, as also his wife, both being experienced with ring attractions. Paul Emmert was the scene painter for its outfitting. The opening season proved successful, and talent of no mean order continued to entertain Honoluluans for some months, assisted at times by several local aspirants for histrionic fame, among which John H. Brown, C. W. Vincent, Wm. St. Maur Bingham, M. R. Harvey, Henry Sea, and one or two others were apparently subject to call. The theater, after some months of idleness in 1855, was burned down from supposed incendiarism, July 7th. The building destroyed at same time were the Station house adjoining it on the north, and a neighboring store at corner of Bethel street, the Bethel church escaping in a badly blistered condition. A general store by a Mr. John Watt, which stood on the south between the theater and Dimond's coral two-story building, succumbed to the flames, little of value being saved. The Fort street corner store of Ahfong was torn down as a safety measure, and but for the Dimond store the fire would have cleaned the block of its Fort street structures. Honolulu Hale and the Polynesian office protected makai property.

The Mr. Watt just referred to, on resuming business, which he did some time later on the opposite side of King street, near Nuuanu, was the first one here to instruct Chinese in English by holding evening classes in the rear of the store after business hours for a limited number of pupils, all of which were adults.

During the summer of 1854 a cargo of lumber arrived from the Sound for a new two-story building of Emmes & Johnson, shipwrights, to be erected on Queen street, in place of the low shacks that had prevailed there, and which with the flour mill proximate, added dignity and centered business activity to the neighborhood till a disastrous fire, which originated in the foundry building, swept them out of existence in the closing month of 1860.

In October Honolulu received its first direct cargo of ice, some 500 tons, per brig *Noble*, from Sitka, for which the enterprising shipping house of Swan & Clifford had a specially constructed



ice-house of 1000 tons capacity at the foot of Maunakea street erected, but though it was well received no further cargoes followed. Mr. Swan shortly after skipped out to avoid facing his crooked high-finance work that wrecked the house next year.

Shipping matters in 1854 claimed much attention. On April 10th the new clipper schooner *Sovereign*, of 130 tons, arrived in 120 days from New London, built to the order of Captain T. H. Hobron, owner and master of the favorite coaster *Maria*, which it was to replace, having been disposed of. The new vessel was brought out by Captain Godby, and before entering the coasting trade, which she did under the name of *Ka Moi*, a trip was made to San Francisco with freight and passengers. She proved a favorite packet between Lahaina, Kahului and this port for many years, and was lost finally on Molokai in 1873.

The regular San Francisco packets of that year were all schooners and comprised the *Lady Jane*, D. P. Penhallow, master; *Restless*, John Paty, master; *E. L. Frost*, E. Hempstead, master, and *Vaquero*, F. A. Newell, master. These were supplemented by occasional vessels as just noted as trade warranted and charters could be effected. In April the bark *John Wesley* (formerly whaling bark *Fellows*) was laid on for San Francisco by Mr. J. T. Waterhouse, and with a number of passengers and partial cargo went to Kauai to complete loading with sweet potatoes, but she went ashore at Koloa on the 8th and become a total wreck; loss placed at \$18,000.

In July the steamer *Polynesia* arrived from San Francisco and gave hopes of regular monthly steam packet service, jollying us up by an excursion for the king and legislature during its visit. She was followed by the *Peytonia*, but that was the last of them: unlike the cat they never came back. In 1855 began the service of the barks *Francis Palmer*, Captain John Paty, and *Yankee*, Captain James Smith, as the Regular Dispatch Line, specially built in the east for the San Francisco-Honolulu trade, and they served us well for many years, both barks and their masters being favorites with the traveling public.

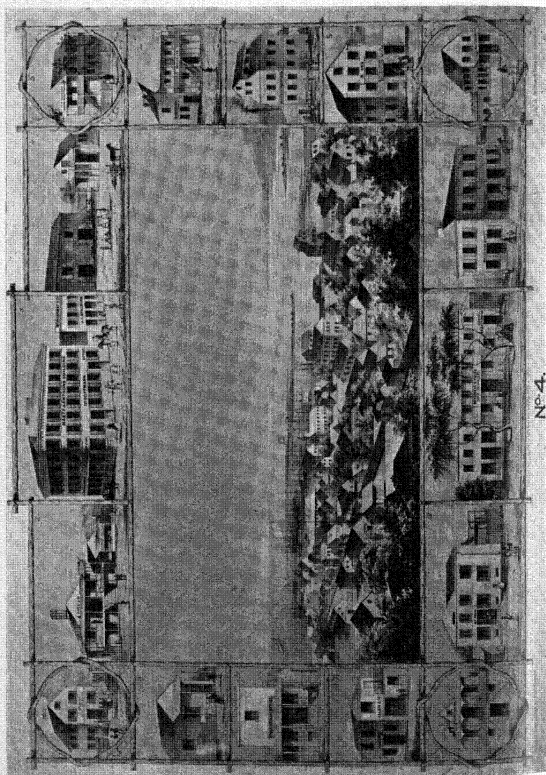
Honolulu had an unusual number of naval visitors in 1854, for that was the year when the Crimean war broke out in which little Hawaii proclaimed her neutrality within a month of its declara-

tion. We did not lack for numbers who ridiculed this official act of Minister Wyllie as a piece of "ludicrous bombast," but what was the poor man to do? The Russian frigate *Diana* was in port, and the British sloop of war *Trincomalee* was daily expected. The former left shortly after, supposedly for Sitka, but to the surprise of all she returned after several days, alleging distress, but probably for dispatches.

In July the combined English and French squadron of sail and steam touched off port from Callao, en route to the Russian possessions. They comprised the *President*, 50 guns; *Amphitrite*, 24; *Virago*, 6; *La Forte*, 60; *L'Eurydice*, 30; *L'Obligato*, 16; and the *Alceste* of 52 guns. The frigate *Pique*, 40 guns, came a little later. They all left in due course and were heard from in an unsuccessful attack upon Sitka, following which was the sudden death of Admiral Price of the British fleet. Several of the vessels touched here again in the fall.

A few months later the *U. S. S. Portsmouth*, *St. Mary's*, and *S. S. Susquehanna* and *Mississippi* were in port, the two latter from their long Japan treaty service under Commodore Perry, though upon its favorable conclusion he went home the other way. Honolulu was also visited that fall by the Netherland frigate *Prince Frederick*, the first of that flag entering the port.

July Fourth was celebrated that year with unusual enthusiasm, the events of the day embracing the customary salutes; a general procession through the town to literary exercises at Kawaiahao church, one feature of which was an immense float holding 32 daintily dressed little girls representing the different states in the Union, and a whaleboat with eight boys representing the different islands of the Hawaiian group. En route was the ceremony of a banner presentation by a Miss Nelly Fairbanks to the Young America Engine Co., of which Henry A. P. Carter was foreman, who responded with quite a speech. Commissioner Gregg was the orator of the day, preceded by an ode, special for the occasion, and sung by Mrs. Fiddes (a professional vocalist then resident), to music of her own composition. At the close of Gregg's oration he presented Engine Co. No. 2 with a silver trumpet for services rendered a burning vessel some time before.



The day closed with fireworks and a ball at the Court house in the evening.

Kate Hayes, the famous songster, touched here per bark *Fanny Major* en route to the Colonies, in July, and gave a delightful concert at the Court house which taxed its capacity at three dollars per —, the highest price known here up to that time. During the vessel's three days stay Miss Hayes was the guest of Captain and Mrs. Makee, in Nuuanu valley, where the day before departure an afternoon reception was held in her honor, termed "a reunion." Like many others she said her island visit "would ever be a bright spot in her memory."

During the summer Paul Emmert, a Swiss artist, made known his work upon the series of views of Honolulu (which illustrates this paper), six in all, which he planned to have lithographed in San Francisco, and in due time was executed by Britton & Rey of that city, mention of the excellence and historic value of which appeared in the *Polynesian*. Captain B. F. Snow's store was the agency for their sale here. Returning from the Coast Emmert opened in November a small lithographic establishment over the Vincent Grenier store, Nuuanu street, abreast of Merchant, and for a while appeared to find remunerative work. I recall this, as also Wm. St. Maur Bingham's studio, over Dr. Judd's drug store, corner of Fort and Merchant streets, as possessing special attractions for me whenever I could steal time for a visit to one or the other on the way home from school.

The annual meeting of the Royal Hawaiian Agricultural Society was held at the Court house June 13th for the presentation of reports, etc., followed by its fair and exhibition the next day, but it lacked somewhat the former interest and enthusiasm, many of its members being otherwise engaged. Prince Liholiho, chairman of the Committee on Labor and Population, presented an admirable report. Judge Lee was re-elected its president, and though in failing health, he gave it much of his time and counsel which proved of value.

On an August afternoon the staid town was shocked by the suicide of Fred. Jas. Porter, at his residence, Beretania street, of the prominent firm of Porter & Ogden, English merchants, Kaahumanu street, after shooting his inamorata, a well-known

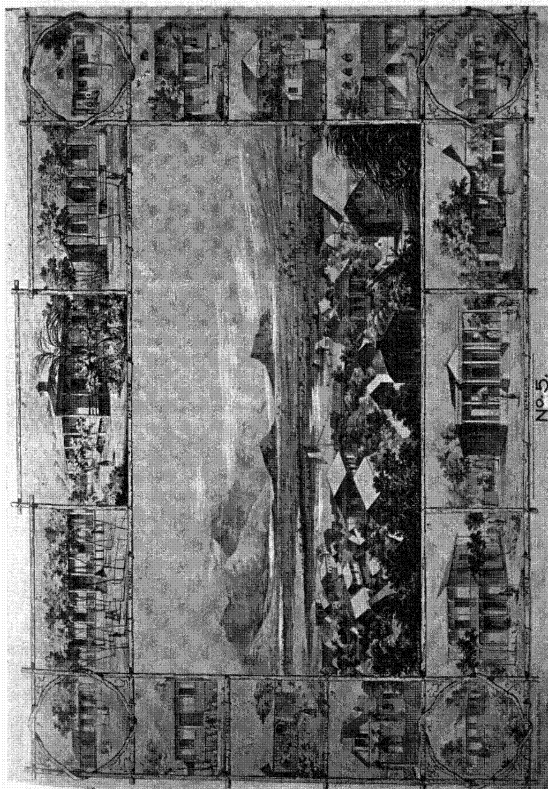
native woman, with whom he had quarrelled. She, however, recovered from his murderous attack.

During the fall of that year there returned to the islands, by the brig *Prince de Joinville*, a colony of forty-five Hawaiians from the mines of California, where they had been laboring since 1849. They were reported to have saved the snug sum of \$55,000 among them, an average of nearly \$1200 apiece; not a great sum for five years' work, but they were an envied hui—company—by many of their fellows and the talk of the town for several days.

In September the steamer *Akani*, mentioned in my last as inaugurating the steam coasting service in these islands, made her last trip; a squally night compelling her to forego the attempt to reach Lahaina, and on getting back to Honolulu the water was ankle deep in the cabin, so steadily had its leaking condition gained on their pumping facilities. Both Princes Lot and Liholiho, besides other dignitaries, were on board at the time, and with a large deck list experienced an anxious night.

October 14th the steamer *Sea Bird* arrived from San Francisco, having used up all available fuel for steam even to the last keg of butter as she struck the dock. She entered upon the coasting trade, taking the windward route under the name *Kamehameha*, while another boat called the *West Point*, which followed about two weeks later, was assigned to the Kauai route under the name *Kalama*. Both of these, like the *Akamai* before them, were side-wheel river boats and not at all adapted to our inter-island service, except their capacity for deck passengers, which seemed to be taxed each way. During a spell of heavy weather, on January 5th, 1856, the *West Point* went ashore at Koloa, Kauai, and became a total wreck, shortly after which event the *Sea Bird* was withdrawn and returned to her California owners, thus ending the career of the Hawaiian Steam Navigation Co.

A Sailors' Home for the port of Honolulu was first mooted in 1854, the movement taking tangible shape in November, those prominent therein being the Seamen's Chaplain, Rev. S. C. Damon, S. N. Castle, G. M. Robertson, J. T. Waterhouse, Rev. R. Armstrong, and Captain Walker of the *South America*. The Privy Council was petitioned for a site suitable for the purpose.



whereupon the lot corner of Bethel and Merchant streets (now occupied by the Yokohama Specie Bank) was donated for the purpose with the proviso that \$5,000 by subscription be raised within sixteen months. I do not recall the personnel of the financial committee which scored its success, but it doubtless comprised those who were alive to the need of ameliorating the conditions of this port for seamen, then existing, for work thereon was begun within six months, and its corner stone was laid by the king (Kamehameha IV) with appropriate ceremonies, July 31st, 1855.

With the September school opening, Mr. E. G. Beckwith resigned as principal of the Royal School, to succeed Rev. D. Dole in the presidency of Punahou, the trustees that year concluding to the higher aspiration of College. The school of the chiefs had but a year before been transferred to its present location, near the head of Emma street, from its former quarters on Palace Walk,—as it was then called—the site now covered by the new Armory. His successor was sought and arranged for through, or by, the Privy Council, not the Board of Education.

The fall season of 1854 showed a falling off in the arrival of whalers, but 276 vessels reporting, though all ports for the year is credited with 525. The highest catch of the season was that of the *South America*, with 2,600 bbls. oil and 45,000 lbs. bone, in which she had the aid of the brig *Wilhelmina*, the pioneer of whalers' tenders, under Captain Babcock. This year also inaugurated the outfitting of fur-trading vessels from here for the Arctic, and Honolulu's share in the whaling industry was increased by several additions. The season, as a whole, was regarded as a paying one notwithstanding several "clean ships," i. e., those having caught nothing. An unfortunate loss to this new local enterprise occurred January 8th, 1855, in the wreck of the bark *Heroine*, of Coady & Co.'s fleet, as she was being towed from port by the steamer *West Point* during a southerly blow. just after being refitted at a cost of \$18,000, on which there was no insurance.

The community was startled December 15th, 1854, by the death, at near noon, of the king, Kamehameha III, after but a week's illness. He had been residing in Koolau, but not feeling

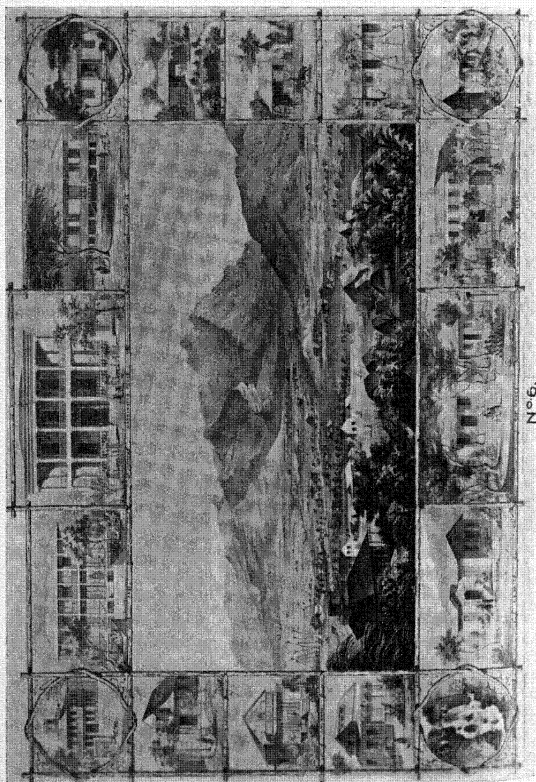
benefitted by the change returned again to town for comfort and care, and passed away at the palace, as stated. Forty-one minute guns from Punchbowl, indicating his age, announced the sad tidings, and the universal wailing of the people in all directions told of their grief at the loss of Kauikeaouli, the beneficent king.

In due course the funeral was set for December 30th, and preparations were made accordingly on a scale of Hawaiian splendor befitting the occasion. As the time approached the event was postponed to January 6th to start at 11 a. m., but through very rainy unsettled weather was deferred again till the 10th. I recall the mounds of marsh-grass and rushes that were stacked the day before at convenient localities each side of the way the procession was to pass, and in the early morning of the funeral hundreds of hands literally carpeted the streets with the grass and rushes that had been provided. The route was from the palace along King to Nuuanu, thence to Beretania, to Punchbowl, to King, to the royal tomb, at that time in the premises adjoining the palace grounds on the south. Spectators thronged the sidewalks, lookouts, and other points of observation the entire route. For the occasion my folks were invited to join the McIntyre's in the occupancy of their lookout, a most advantageous location on King street, adjoining the Paki premises. As the cortege started from the palace minute guns began their boom and the wailing of natives became general. Both along the way and from among those in the procession were *kanikau*, *uree helu*, and *mele inoa olis* by those who were gifted with such recitative powers.

The pomp and splendor of the cortege was notable. I have seen it stated that it exceeded everything of the kind before, or since. From an account at the time I quote the following description of it:

"The car was drawn by a large company of Hawaiians who were preceded by two large yellow kahilis and the late king's standard draped in black. On each side, at the foot, and at the head of the car were carried two large green kahilis, while on each side were carried sixteen smaller kahilis of various sizes and colors.

"A canopy of black, rising in a small pyramid to summit



upon which rested a crown, was supported by four black pillars, between which and beneath the canopy, resting upon the ancient embroidered feather quilt of Kamehameha I, was the coffin of his majesty, Kamehameha III, covered with crimson velvet and richly decorated with armorial paintings.

"At the foot and in front of the coffin was the royal crown, covered with crape, resting upon a velvet cushion, while the royal feather cloak of Kamehameha I was thrown, as a pall, over the coffin.

"High chiefs, male and female, accompanied the car, which was followed by the queen, princesses, and prince, in one carriage, and the king, Kamehameha IV, and Keoni Ana, the premier, in another." * * * *

As my recollection of this, and comparison with state funerals that have occurred since, that of Kamehameha III would naturally possess more of the genuine splendor of material and national customs, with less of modern artificiality for a like effect. It was estimated that 5,000 persons were in line in the procession which was forty minutes in passing a given point. English, French and American warships in port at the time were the *Trincomalee*, *L'Eurydice* and *St. Mary's*, delegates from all of which participated in the solemn services.



The day following the funeral services were held in Kawaiahao church for the induction of the king as heir and successor of Kamehameha III, when his will was read, following which the king made a public address that was highly commendatory.

During the smallpox scourge of 1853 the malady entered the sanctum of the "Weekly Argus" and laid low for a time its editor, Abraham Fornander, thus putting a quietus upon the op-

position utterances that had prevailed for a year and a half. But, Phoenix-like rising from its ashes, the paper appeared Janu-

ary, 1854, as the "New Era and Argus" in new dress, with Fornander again as its guiding star still in opposition to the government organ, but like its predecessor, it had but a brief existence. The Argus office was in the Robert Wakeman premises, nearly opposite the Thrum cottage, on King street, near the bridge, but on its resumption it moved to the Caranave premises on Marin street, now covered by the Honolulu Iron Works building. Here was my first introduction to type and the printing press, visits to which were frequent though brief from their stolen character, for in my boyhood days time was not generally my own. Through intimacy with the office I was permitted on more than one occasion to share with the editor his exchanges, little thinking that in coming years I would be delving into his field of Hawaiian research.

Following some agitation by R. C. Wyllie, mainly, on the needs of a savings bank for the town, there was opened here in November, 1854, a branch of Page, Bacon & Co.'s Bank of San Francisco, but the financial reverses experienced by the home concern the following year, although local interests were said to be amply protected and unaffected by the Coast troubles, which was but temporary, the Honolulu office had but a brief existence.

During the summer of 1855 was established the first real grocery concern here by experienced tradesmen in the arrival, by way of San Francisco, of Messrs. Samuel Savidge and Henry May. Upon the receipt of their stock from England, shortly after, they opened in May on King street, near the Bethel, and with their complete assortment of European groceries and oilmen's stores, inaugurated a new method of coffee roasting, the fame of which is a good trade mark to the house of H. May & Co., their corporate successors, today.

About the same time, by direct vessel from Liverpool (the *Pons Aelii*), arrived Dr. R. and Mrs. McKibbin and family, of three young ladies and the younger son, Alexander, who were a welcome addition to Honolulu society, for they burned their bridge behind them and became identified in various ways with local interests, as their descendants may testify. The elder son, Robert, came a little later on obtaining his medical diploma, and after a short while at Lahaina joined with the father as succes-

sors to Dr. Lathrop's drug store, on Queen street. Dr. McKibbin, Sr., early established himself in family practice and upon the death of Dr. Rooke became court physician, while Dr. Robert, Jr., was long connected with the Queen's Hospital.

Honolulu's lei business differed much in the fifties from what we see today. Of course there was not the tourist traffic nor steamer days then with their special demands for floral wreath decoration as "bon voyage" tokens. This has developed from the lei peddlers of early days who used to go about to vend their handiwork. The wreaths of those days were of more durable material than the natural flower product of recent years and in semblance of downy feather-work the larger part were made of wool yarn made up in vari-colored ring and spiral pattern, as also in plain colors. These were displayed in a small hand-frame usually holding half a dozen leis in being hawked about. While the Hawaiian love of flowers and adeptness in lei-making has made it the attractive industry it is, I recall but few flowers then used. The yellow ilima, a very fragrant pink rose, and the ohia-lehua in its season, predominated, though these, as also the hala or pandanus nut leis, which we now rarely see, were more for festive or holiday attire.

Among the street vendings of Hawaiian handiwork should be mentioned the tortoise-shell back and round combs, at prices ranging from two to five dollars each; also hats made of various products, one in particular I recall being of a marsh grass that furnished a quality resembling a medium grade Panama. Then there was the characteristic wooden pipes with brass tipped bowl and mouth piece. Occasionally these were to be had in bone and ivory. All these were for local native requirements, not for any foreign demand. When the tourist business set in there was added model canoes, grass huts, spurious images, etc., but all these are now things of the past.

In closing it may interest some readers to learn the amount of Hawaii's trade in those days. The value of all imports for 1853, at all ports was \$1,281,951, and \$1,396,786 in 1854. Our total exports for the same years were \$372,997 and \$585,125, respectively. Of these amounts the value of domestic products for supplies to shipping and sent abroad was \$281,599 in 1853, and this insignificant sum fell off \$7,569 the following year. The cus-

toms receipts for these respective years were \$155,640 and \$152,125, a decline of \$3,515. The comparison with the trade and commerce values of today, as shown by the customs tables on pages 23-27, indicate the marvelous development of the islands in sixty years.

COMMEMORATING A GOOD KING

THE centenary of the birth of Kamehameha III was celebrated March 17, 1914, at Kawaiahao church, this city, under the auspices of the Daughters of Hawaii, services commencing at 4 p. m. This historic church that has witnessed so many of the royal ceremonials of the Hawaiian people was taxed on the occasion to the utmost of its seating capacity, to view the unveiling of the memorial tablet which had been prepared by the Daughters of Hawaii to mark the birthplace of Kauikeaouli at Keauhou, Kona, Hawaii.

The tablet was hidden from view by the royal standard of Liliuokalani and a Hawaiian flag loaned by Hawaii's venerable ex-queen for the sacred ceremonial.

The queen and high chiefess Elizabeth Kekaaniau Pratt, both of whom are lineal descendants of Keawe, the ancient king of Hawaii and founder of the Kamehameha dynasty, were seated on either side of the memorial stone in the nave of the church. Back of the queen and Mrs. Pratt were high chiefs Beckley and Hoapili, clad in the ceremonial feather cloaks and helmets of the royal courtiers. Fred Kahapule Beckley, the spear bearer, is a direct descendant on his father's side from Kameeiamoku, while Albert Kalaninoanoa Hoapili, the kalihi bearer, is a lineal descendant of Kamanawa. These two therefore represented the spear and kahili bearers who are shown on the Hawaiian coat of arms, and are descendants of the two chief court alii of Kamehameha I. On either side of the royal court representatives were the kahili bearers in ordinary, sixteen young men from the Kamehameha school, robed in capes and the costumes of warriors of old, representative of the court attendants.

The chancel and pulpit platform were tastefully decorated with beautiful ferns and palms while above was the royal standard and Hawaiian flag.

UNVEILING THE TABLET.

The services opened with the grand old hymn, "How Firm a Foundation," by the choir and congregation, after which Rev. H. E. Poepoe gave the invocation. Then the royal chanter, Mrs. Naha Hakuole, chanted the *koihonua* or song of genealogy of the king. After this the queen drew the cord releasing her royal standard or personal flag, while Mrs. E. Kekaaniau Pratt released the Hawaiian flag covering the tablet.

This tablet was a polished block of fine grain deep lava from the Moiliili quarries, surfaced some ten square feet on which the following inscription stood out in bold letters, within a neat border:

KAUIKEAOULI, KAMEHAMEHA III.

Son of Kamehameha I and Kcopulani.

Born March 17, 1814.

Died December 15, 1854.

KA MOI LOKOMAIKAI.

The unveiling was followed by another chant by Mrs. Hakuole, termed "The Prayer of Life," the tradition being that Kauikeaouli was born as one dead, and that life was restored to the body of the royal babe in answer to this "prayer of life" by the court chanter a hundred years ago. Succeeding this an address commemorative of the life and good deeds of Kamehameha was delivered in Hawaiian by Judge A. S. Mahaulu, of Waialua, after which Rev. Wm. Brewster Olson, first principal of the Kamehameha schools at their establishment, and for several years subsequent, gave the following English address:

"It is fitting on this centennial anniversary of the birth of Kauikeaouli, son of Kamehameha the Great, and himself the beloved King of Hawaii nei, for over a score of years, that we should recall that it was he who strongly urged the erection of this building in which we are assembled, generously subscribing \$3000.00 toward its cost; that it was he who, at the dedication of this house of worship in 1842, presented the church with a deed to the building and the site; and that it was he who, on the occasion of the restoration of the national sovereignty in 1843, at a special Thanksgiving service held in this auditorium, addressed the great congregation and uttered the words which became the national motto: 'Ua mau ka ea o ka aina i ka pono'—the life of the land is perpetuated by righteousness.

"It is fitting therefore that this should be the scene of special recognition of the statesmanship and personal worth of the great benefactor of his people.

"Covering a span of only two-score years, his life began with the breaking down of the ancient tabu system, and ended with the establishment of constitutional government throughout the nation.

"Notwithstanding he was born into the world a well-nigh lifeless babe, he was destined to achieve for his people more than all the monarchs of Hawaii.

"Thus he was permitted by the sanction of his brother, the king, to sit down in his Kona home and to eat with his mother, thus doing a forbidden thing; and by that act, though he was a mere child, he dealt the death-blow to the tabu system that was already tottering under the weight of its cruel oppressions.

"Accustomed to dissolute associations, and apparently hopelessly entangled with reactionaries, he surprised the whole nation when, at the early age of twenty, in assuming full sovereignty, he placed himself squarely before his people on the side of righteousness by the choice of the Christian princess, Kinau, as his premier.

"King John of England granted Magna Charta to his rebellious barons under the stress of armed constraint. But Kauikeaouli, when only twenty-six years of age, without constraint and of his own free will, proclaimed a Bill of Rights, such as no other sovereign probably has ever accorded his people voluntarily. That Bill of Rights emancipated the common people from serfdom, and conferred on them the privilege of owning their own lands, and of enjoying unhindered the labor of their hands.

"It does not detract anything from the honorable record of Abraham Lincoln to recall that, however much he desired the emancipation of the negro, he was not able to effect it until political and military necessity compelled it. Kauikeaouli emancipated his people from their irksome bondage not through compulsion, or the force of circumstances, but by reason of his own generous regard for the happiness of his people.

"Later on he made the emancipation of his people effective by setting apart one-third of the land so that every Hawaiian might become a land-owner. This was known as the Great Mahele, and this act of Kauikeaouli will always stand out in the history of Hawaii as the noblest effort of a generous monarch to promote the progress and prosperity of his people.

"Most nations have arrived at constitutional government through the grudging concessions of rulers and the slow processes of agitation and civil conflict. But Kauikeaouli conferred constitutional government on his people as the natural climax of what he had undertaken in their behalf. And so he gave them first the constitution of 1840, and finally the ampler Constitution of 1852, admitting the common people to a share in the enactment and execution of laws for the common good.

"For twenty-two years Kauikeaouli was the progressive and statesmanlike leader of his people. And he was such in the face of great crises and changes in the national history. Two great epidemics decimated his people. Repeatedly the independence of Hawaii was menaced by the unjust encroachment of foreign nations. The Great Awakening created conditions that necessitated schools, and courts, and land commissions, and systems of taxation and all the paraphernalia of a civilized community. The doctrine of religious toleration had to be established. Protection for his people from the ravages of strong drink, was a commanding issue. So was the necessity of shielding his people from the lustful assaults incidental to the presence here of as many as five hundred whaling vessels in a single year.

"He was a wise ruler, who kept wise counselors about him, and his ambition was to serve his people well and to hold them to what was right.

"He had his faults, but no one knew them or regretted them more than he. To the young chiefs gathered in their school, he said: 'I wish my lot had been like yours. I deeply regret the foolish manner in which I spent the years of my youth.'

"He was a remarkable man, in the forefront of remarkable changes in the life of a whole nation. The marvel is that one short life should compass such a transformation as Hawaii experienced from 1813 to 1854, and that that life should have been a part of it all.

"In no small degree was this due to the pronounced influence of three noble daughters of Hawaii—Keopuolani, Kaahumanu and Kinau. Sturdy in their loyalty to Christian ideals, their counsels were of inestimable value to Kauikeaouli in giving direction to his convictions and in helping to shape his decisions in great exigencies.

"This memorial tablet, when finally erected at his birthplace, shall speak to coming generations as they shall read the inscription. But an even nobler memorial is that which is written in the hearts of the Hawaiian people and of every lover of their race.

"It is fitting that I should quote in closing, the words uttered by Kamehameha IV in this house of worship in his address on the occasion of his taking the oath to maintain the Constitution, January 11, 1855:

"The age of Kamehameha III was one of progress and of liberty, of schools and of civilization. He gave us a Constitution, and fixed laws; he secured the people in their title to their lands, and removed the last chain of oppression. He gave them a voice in his councils and in the making of the laws by which they are governed. He was a great national benefactor, and has left the impress of his mild and amiable disposition on the age for which he was born.'"

Further tributes, in Hawaiian, were delivered by Rev. O. H. Gulick, after which the Kamehameha girls sang the Pauahi and Kamehameha songs dedicated to Mrs. Pauahi Bishop, and closing with Hawaii Pono in which the audience joined.

BIOGRAPHY OF KAUIKEAOULI.



Kauikeaouli, the third Kamehameha, son of Kamehameha the Great and Queen Keopuolani, was born at Keauhou, Kona, Hawaii. He was proclaimed king with the title of Kamehameha III, with Kaahumanu as regent during his minority, on June 6, 1825. In March, 1833, he declared his minority to be at an end and asserted his claim to the sovereignty with Kinau as premier. "To take unto my possession the lands for which my father has toiled, the power of life and

death, and the undivided sovereignty."

A Declaration of Rights was signed and promulgated by the

king in June, 1839, which may be considered the Magna Charta of Hawaiian freedom, as it was the first step toward the establishment of individual property rights, also a guarantee of religious liberty. The first Constitution was proclaimed in October, 1840, and the right to hold land in fee simple in 1848. Kamehameha III died after a brief illness on December 15, 1854.

Like impressive ceremonies attended the dedication of the memorial tablet at its placement, marking the king's birthplace, August 15th, at Keauhou, for which purpose the queen and a large delegation of prominent lady representatives of the various Hawaiian societies, and a number of others, journeyed from this city.

The occasion was marked by ancient observances illustrative of the customs of the people in a simple yet dignified manner.

The tablet was conveyed to Kailua by steamer, where it was met by a royal double canoe, manned by paddlers clothed in semblance of feather cloaks and bedecked with brilliant colored leis. This large canoe was accompanied by a flotilla of small ones filled with ancient costumed warriors. Upon the stone being lowered into the double canoe the fleet paddled down the coast to its destination, Keauhou. At its landing twelve stalwart descendants of warrior chiefs, each clad in costume emblematic of the rank and station of his ancestors, conveyed it by a litter to its designed place where services were held before a large concourse of Hawaiians that had gathered to do homage to their alii.

Rev. Stephen Desha was the orator of the day, and the ceremonies throughout were impressive and creditable to all concerned. At its conclusion the several thousand that had gathered to participate in the dedicatory services repaired to a characteristic Hawaiian luau, prepared by the people of the district, and thus celebrated the occasion with a grand feast.

HARVARD University Museum is the recipient of a relief model of the Kilauea craters, made by Geo. Carroll Curtis of Boston, the gift of Robert Sayles, curator of geology. This model is the outcome of three months spent by Mr. Curtis in making a photographic survey of the region, and deemed to be "the most comprehensive survey of its kind yet made for the reproduction of a land-form type."

HAWAIIAN PAGEANTS

AMONG the various pageant exhibits that have come in vogue of late years, not a few are presented with the view of their historic and educational value, a feature generally so recognized by the press, and quite recently an influential art journal dealt with the same subject from the artist's standpoint with much commendation of this development of the pageantry spirit for the portrayal of historic events and customs of by-gone days. The pageant and masque given in St. Louis, Mo., June 1, 1914, to celebrate that city's founding, bore out this art-educational idea with great acceptance.

That Hawaii, out in the broad Pacific, should be developing this pageantry idea at the same time may be only a coincidence, or it may be the lapping on our shores of a psychological wave that is circling the world. Be that as it may as to cause, it is sufficient to chronicle the fact that we have "caught on," and not only done well with each subject so far presented in pageantry form, but it has awakened a desire for better knowledge and increased regard for national Hawaiian customs and characteristics of the race that made them famous before civilization touched their shores. What originated as a feature of our annual floral parade as a tourist attraction has struck a popular chord in the Hawaiian mind which they have taken up as the main feature of their one particularly national holiday of the year, June 11th, in commemoration of Kamehameha I.

The first Hawaiian pageant presented was a new feature as an added attraction to the Floral Parade of 1913, to portray the landing of Kamehameha at Waikiki in his plan for the conquest of Oahu. The subject was a bold one, to bring out with striking effect the majestic pomp of that conqueror's flotilla of war canoes with his invading army, on almost the identical spot of the actual event which took place some ninety years before. With the accompanying incidents and festivities illustrative of court life in those barbaric days the scene was well calculated to strike the popular vein, all of which were directed and enacted by sons and daughters probably of the original participants.

The next pageant was planned with more elaboration as the

special feature of the Floral Parade of 1914, the afternoon of February 19th being assigned it. For location the public baths section of Kapiolani Park was chosen, as its waterfront gave larger scope for the nautical feature, while the grounds afforded space and accommodation for the throng of observers without encroachment upon the preserves of the participants. The subject on this occasion was the traditional romantic incident in the life of Umi, King of Hawaii, in his wooing of Piikea, Princess of Maui, by proxy. Here again the impressive appearance of the canoe flotilla of royal emissaries was a striking feature, and the court pomp, ceremonies, and festivities attending the important yet delicate mission, illustrative of customs in the seventeenth century, was picturesque in the extreme.

So far these pageant undertakings, though carried out in all detail by Hawaiians themselves, had their inception in the foreign hands of the Floral Parade management, the success of which has encouraged leading natives to utilize this form of entertainment to celebrate their particular holiday, June 11th, in commemoration of Kamehameha I. The suggestion met with ready response by the various Hawaiian societies, and by their hearty co-operation formulated and carried through their first program free of all expense to the public.

The subject chosen for portrayal was designed to illustrate an important Hawaiian historic event, the cession of Kauai to the rule of Kamehameha, a subject well suited to exhibit the canoe action of ancient court equipment, their diplomatic reception and royal entertainment, though departing somewhat from historic accuracy. The scene of this activity was the public baths grounds again, of Kapiolani Park, and was witnessed by a concourse of people estimated at 8000. From the program of the day is condensed the following pageantry scheme.

"The history of Kamehameha the Conqueror is that when he had overthrown all of the Islands of Hawaii and in turn the other southerly islands of the group, he captured Oahu, defeating its king at the battle of Nuuanu. He then announced his intention to invade Kauai and Niihau and complete the subjugation of the group, uniting all into one kingdom.

"News of the approaching invasion was sent to Kaumualii, the

King of Kauai. The latter called together his high chiefs and retainers and decided that instead of awaiting the invading army he would come to Oahu and render allegiance. In advance he sent an envoy to announce that his intentions were friendly.

"The spectacle was the meeting of the Kings. Hawaiian tradition is that Kamehameha gathered his warriors and his high chiefs together. When Kaumualii arrived, Kamehameha went down to meet him in the sea, as an equal and a brother, and commanded him to return to his island and continue to govern his people wisely, that he, Kamehameha, would not assume the reins of government over Kauai until after Kaumualii had passed away. So, after the formal cession of Kauai, which in Hawaiian tradition is called 'Ke ike i kai,' or, the 'Meeting in the Sea,' Kaumualii returned to his island kingdom.

"This story was enacted in five scenes. Scene one represented Kaahumanu, Kamehameha's beloved queen, with her high chiefesses and court, approaching her halau or royal pavilion. Before her goes the ilamuku, or marshal, with his wand of office; the kahili bearers and attendants; the chanter, reciting the queen's mele koihonua, or song of genealogy. The queen is followed by her high chiefesses and chiefesses of lower rank. At the entrance to the queen's halau are two puloulou, or tabu sticks, and the pea kapu, symbol or sacredness.

"Kaahumanu enters the halau and rests on a hikiee or couch. Grouped around her are three young princesses, with high chiefesses and attendants.

"Scene two represented Kamehameha and his court approaching his halau, preceded by his ilamuku, or marshal, and his high priests. In his train are the high chiefs of his own court; conquered chiefs of Hawaii, Maui, Oahu and the other islands; warrior chiefs, bearing spears; chiefs bearing kahilis, and personal attendants comprising the kua kahili, or standard bearers; the paa ipukuha, or cuspidor bearer; the muki paka, or pipe bearer, and others.

"The attendants, bearing small kahilis, take position around a hikiee, or couch, on which Kamehameha seats himself.

"Two tabu sticks front the entrance to the king's halau. Outside, surrounding the pavilion, are the populace and warriors.

A royal chanter recites Kamehameha's ancestral genealogy, and a band of hula dancers perform for his diversion.

"Scene three shows the arrival of the envoy from Kauai to announce the approach of Kaumualii. Kamehameha goes down to the seashore to meet the Kauai king, preceded by his marshal and the four high chiefs who are his counsellors.

"When the double canoe bearing Kaumualii reaches shoal water, Kaumualii leaves his canoe and wades through the shallows. Kamehameha, on seeing this, walks to the shore and meets him. After an embracing greeting between the two monarchs, they walk back to the halau, preceded by the ilamuku and the high priests of both courts. In their train the high chiefs, warriors and attendants of the two courts mingle, while the Kauai chanter recites Kaumualii's genealogy.

"Scene four, the two kings are seated on the royal hikiee, and the king of Kauai recites the object of his mission to cede Kauai to Kamehameha.

"Scene five, the two kings, with their courts, visit the halau of the queen and are received in state by Kaahumanu and her court, concluding the pageant.

While this entertainment was in progress in Honolulu, another of like character was being enacted at Kailua, Kona, Hawaii, under the direction of the Kaahumanu Society of that island, which, in their depicting the landing of Kamehameha from one of his tours, presented a larger canoe fleet and body of warriors and attendants than was available here, which made a characteristic and spectacular royal equipage as it journeyed from Keauhou to Kailua, where Kamehameha held court in his day. After a reception replete with ancient pomp and ceremony, repairing to the palace of early days the descendants of his race gathered to commemorate him in a grand luau in true Hawaiian style of open hospitality.

A feature noted with these several pageants illustrates the aptness of the Hawaiian for such open-air exhibitions by the fact that but few rehearsals in each of these were held. Save the general knowledge of the event to be presented, and the special instructions for the occasion, they may be said to have been impromptu performances. Everything passed off in regular order as by

natural born actors. The subjects appealed to them, and the self-possession and pride of the race enabled the several features to be presented with a pleasing naturalness, without any semblance of restraint or stiffness, yet well maintaining the dignity and barbaric pomp of ancient royalty. These pageants so appeal to the "Aloha aina—aloha alii" spirit that we may look forward to further endeavor in this line and prove an encouragement for their uplift, as also the educational benefit to the new-comers, resident or visitor, of the estimable qualities and bearing possessed by the Hawaiian race.

HAWAII AT PANAMA INTERNATIONAL EXPOSITION

By ALBERT PIERCE TAYLOR,

Hawaii Exposition Commission Representative at San Francisco.

WHEN the flag of the old Hawaiian monarchy, of the later Republic of Hawaii and of the present Territory of Hawaii, was raised over the site for Hawaii's pavilion at the Panama-Pacific International Exposition, 1915, at San Francisco, on July 7, 1914, Hawaii made its first conquest for additional area to that comprised in the beautiful group of islands in Mid-Pacific. It was, however, a conquest of friendship, a conquest of education to display to the rest of the world the advances which Hawaii has made since the first white man set foot in that "Paradise of the Pacific." The flag was hoisted while the beautiful melodies of Hawaii were sung and while two thousand people gazed upwards at its red, white and blue folds.

The ceremony of breaking ground for Hawaii's pavilion was one of the most unique ever held in the premises. Surrounded by a natural grove of trees, the only one in the vast expanse of the exposition grounds, the site has much of the charm of the Hawaiian Islands. It will be the aim of the Hawaii Exposition Commission to create the atmosphere of Hawaii in and around its building. There will be plants indigenous to the soil of the Islands; there will be flowering shrubs and trees:

there will be Hawaiian music, and Hawaiian scenes upon the walls of the handsome pavilion; gardens will even be laid out within the building.

While Hawaiian flowers in all their varied hues will catch the eye, these will be rivalled by the wonderful and strangely comingling colors of the Hawaiian piscatorial exhibit, for an aquarium, to contain the variety familiar to Hawaiian waters, will really be the principal feature of the building. The Hawaiian fishes are not surpassed in color and strangeness of shapes by like exhibits in other aquariums. Travelers pronounce the aquarium at Waikiki to exceed in variety of coloring the fishes to be found in the famed Naples aquarium.

A vast network of pipes will be laid under the Hawaiian building. Sea water from beyond the Farallones will be brought in by United States steamers and pumped into supply tanks. The water will pass from these into the pipes and, after a long filtering process, returned again to the tanks and used over and over again.

In the center of the hall will be grouped the Hawaiian singing boys. Afternoon and night their voices will be heard in the ear-haunting, heart-tugging melodies of Hawaii, music which commands the deep attention of every person unfamiliar with the odd compositions. Their voices will be the lure which will bring the thousands of exposition visitors within the portals of the Hawaiian pavilion, there to be charmed with the dioramas of the Pali and the Waikiki beach which will adorn the walls. Handsomely-executed casts of Hawaiian fruit will be seen around the main hall, the product of Sculptor Usborne of Honolulu, and these will be masterpieces both in form and coloring. There will be handsome koa kiosks containing large transparencies of Hawaiian scenes as well as special ones of meteorological data.

Another feature of importance will be the lecture room, which is arranged for moving pictures and stereopticon slides. Lectures will be given every day and almost continuously within certain hours, and doubtless will prove one of the interesting forms of spreading information about the Islands.

At the left, as you enter the building, will be the Information

Bureau, from which half a million or more copies of Island literature will be offered to visitors. The walls of the reception room will, of course, wherever possible, have paintings and enlarged photographs. The tables will be supplied with specially designed Aloha postal cards and other matter to be sent out. There will not be any agricultural nor other exhibits in the building. The Hawaii Exposition Commission has its plans well matured and they are of such a character as to warrant a display that will be attractive and effective.

Hawaii, geographically, has always occupied a unique position with reference to the United States, and particularly to California. It is California's next-door neighbor to the west across a beautiful part of the Pacific Ocean. Geographically it occupies a next-door position in the exposition grounds to California, for the California building is close by and on the other side is the magnificent Palace of Fine Arts, where will be staged many of the spectacular features connected with the exposition year. The building is so situated that the stream of visitors will have to pass the portals and Hawaii will benefit.

The original site was far down among the areas set aside for States and foreign buildings. Governor Pinkham and Chairman H. P. Wood of the Hawaii Exposition Commission felt that the original site designed was too remote from the region of the beautiful palaces to give Hawaii any advantage. Chairman Wood diplomatically secured permission from the exposition officials to change the site and secured the one on which Hawaii's building has been reared, considered one of the best in the grounds. Within two weeks from the breaking of ground the contractor had the pavilion under construction.

Why the Panama-Pacific International Exposition, and why Hawaii exhibiting at this great world's fair? It is the official, national and international celebration of a contemporaneous event—the opening of the Panama Canal. The opening of the Canal holds a brilliant future for the Hawaiian Islands, for the stream of shipping that is expected to pass through the Canal will bring Hawaii directly upon the trade and passenger routes from Far East to the Occident, and from the Atlantic seaboard to the wealth coasts of the Western Pacific. Hawaii has been

called the Crossroads of the Pacific. That is a phrase which has been full of meaning for many years. It will have a very practical meaning with the trend of shipping changed to include Hawaii in every lane of travel across the Pacific.

The propriety of celebrating the opening of the Panama Canal by a great universal exposition was recognized several years ago. It was recognized at the same time that, as the event was of transcendent importance, its celebration, to be adequate, must transcend all precedent. If the greatest physical achievement in history was to be celebrated by an exposition, then that exposition should be the greatest in history.

Only those who have seen and studied the great universal expositions of the past can realize the task involved in building one that should excel them all. Great as this task appeared, the honor of assuming it was sought by many cities. After much consideration, Congress, in 1910, entrusted the responsibility to San Francisco, and the Panama-Pacific International Exposition represents the fulfilment of that national trust. Such is the genesis of the great exposition to which California, as the hostess state, invites the world in 1915, and at which Hawaii will assist her big sister in receiving the peoples from the four corners of the earth.

Hawaii, at the very moment when all Europe was ready to meet in a cataclysm of carnage, and rending apart the splendid civilization which it had reared, conceived the idea of a Pan-Pacific pavilion which it proposed to erect in the exposition grounds, as a common council hall for all the countries of the Pacific Ocean. The idea was accepted by the exposition, but it immediately broadened in scope when it was suggested to them that such a pavilion, patterned after a Samoan council house, thatched and supported by cocoanut tree columns, should not only be the "Pan-Pacific Pavilion," but be, in fact, "The Hague of the Pacific."

Coming to the exposition at the moment when one-half of the world, it seemed, would be unable to show its progress in manufactures, art and commerce, the "Hague of the Pacific" seemed most appropriate. It gave thought to a new idea, that the great war would not last long and that, after all, 1915 was a set of

figures which seemed to have a peculiar, almost weird, significance; that 1915 would not only celebrate the opening of the greatest engineering achievement of history, but would celebrate the end of the greatest war in history and probably mark the end of all great wars.

Truly Hawaii, which has been the news center of many universal affairs, struck the keynote of a situation which was gladly welcomed by the exposition. The Pan-Pacific Pavilion will be erected through the efforts of the Hands-Around-the-Pacific Club of Honolulu.

It seems fitting that the great exposition, which marks the beginning of a new era in commerce, should be held on the shores of the Pacific. California marks the limit of the geographical progress of civilization, save that Hawaii held and fostered a civilization of its own Yankee brand, long before Americans went into Spanish California. For unnumbered centuries the course of empire has been steadily to the west. At this great exposition there will be free expression of thought, a comparison of methods and an interchange of ideas such as the world has never known. Entirely aside from the practical instruction to be had from the commercial, scientific and educational exhibits, no one can visit San Francisco and the great universal exposition and fail to receive in addition a mental, social and spiritual stimulus.

About four centuries ago Balboa, the intrepid, the persevering, led his band of adventurers across the Isthmus of Darien, as it was then called, and, leaving their protection, gave rein to his impatience by going on ahead and climbing, alone, the continental divide, from which vantage point he discovered the world's greatest body of water—the Pacific Ocean. It was also a band of Spaniards, so traditional history relates, that came to the shores of Hawaii, in the middle of the sixteenth century. So, again, Hawaii is peculiarly interested in the celebration.

It is variously estimated that the total expenditure at the exposition will be about \$50,000,000. Already the great palaces of Fine Arts, Education, Manufactures and Varied Industries, Liberal Arts, Transportation, Mines, Machinery, Agriculture and Horticulture are all completed (exteriors) and present a vast

group of buildings such as have never before in all history been raised by man. There will also be a festival hall and great buildings erected by the United States; there will be an aviation field; a stadium, and drill grounds where, it was expected, organizations from practically every army in the world would drill and parade.

Upon the great palaces are groups of statuary finished by masters of the art. The buildings are arranged to form courts between, and these are already of a beauty which holds the eyes entranced. There is the Court of the Universe. This is the meeting place of the Eastern and the Western hemispheres, and the decorative scheme on each side is typical of the theme. There are great triumphal arches; there is the Court of Abundance; the Court of the Four Seasons. There will be the Tower of Jewels, 500 feet high, surmounted by jewels which shoot out marvelous colors reflected from the sun by day and searchlights by night.

The amusement concession already contains the Santa Fe's Grand Canyon of Arizona, a reproduction of the Cliff Dwellers and caves and the Puebla Indians' queer houses, a great structure which is to be one of the best attractions in the grounds; the Yellowstone Park is approaching completion; there is Toy-land for Grownups; there is Creation, the Battle of Gettysburg; The Dayton Flood; Ireland; the '49 Mining Camp; and scores of other attractions for amusement only, but they have their educative features as well.

Already the grounds around the great palaces have been sodded and lawns are everywhere; the foliage has been arranged; sunken gardens prepared; roads are nearly all completed (asphalt); autos carry visitors through today, but in exposition time there will be electrical chairs for one, two and four people, each with a guide; a splendid method to see everything. The city of San Francisco has built a municipal railway line down Van Ness avenue to the entrances to the concessions section and also to the main entrance; thousands of visitors now take advantage of the opportunity to see the fair in construction.

On February 20, 1915, the exposition, completed, will be formally opened.

Hawaii's building and its affairs are in the hands of a commission, appointed by the Governor of Hawaii, comprising H. P. Wood, chairman; J. N. S. Williams, John Wise, John Effinger and Bertram Rivenburgh. Chairman Wood has been associated continuously with the fair project since its inception, has worked out the intricate details of everything associated with its progress, and has been its source of abundant enthusiasm and optimism, and, working day and night, he has completed, at last, the details of an exhibit which will be worthy of the high place which Hawaii occupies in the councils of the great American Republic.

The legislature of Hawaii appropriated \$100,000 for an exhibit and building at the exposition. The commission contracted with Lester H. Stock of San Francisco for a pavilion to cost about \$31,000, and this was completed in December, 1914. C. W. Dickey, the architect of the building, formerly of Honolulu and now residing in Oakland, inspected the structure, which was formally accepted from the contractor by Secretary of the Territory Wade Warren Thayer and Chairman Wood in December.

The ceremonies for the ground-breaking and raising of the flag were in the hands of A. P. Taylor, agent in San Francisco of the Hawaii Promotion Committee.

Hawaii trusts to gain much from its participation at the exposition. It expects to show that Hawaii is and will continue to be the real Playground of the World; that it is an ideal tourist resort, winter and summer, and that its climate surpasses that of the Riviera, the Bermudas and the Bahamas, and that, after all, there is no more beautiful group of islands in all the world than "The Paradise of the Pacific."

INCREASE OF SHIPPING. The record of shipping for the port of Honolulu for 1914 shows a large increase over the preceding year. The number of steamers entering the port for the fiscal year ending June 30 was 464, with a gross tonnage of 3,276,380, an increase of eighty-five, with 640,178 tons gain. Sailing vessels decreased twenty-nine, of 16,500 tons from the previous year, leaving the net total of all vessels, sail and steam, 534; total tonnage, 3,348,012.

INVESTIGATION OF HAWAII'S WATER SOURCES

By G. K. LARRISON, Superintendent of Hydrography,

Bureau of Agriculture and Forestry.

THE United States Geological Survey has since 1888, maintained a branch, the principal function of which has been to investigate the natural water resources of the various parts of the United States. The work done by the Survey along these lines has proved so valuable and reliable that the Survey is now acknowledged to be the most competent authority on water resources investigations and data in the United States. The Water Resources Branch of the Survey now consists of a division of surface waters investigation, a division of ground waters investigation, and a division of water utilization,—all of which report through the Chief Hydraulic Engineer to the Director.

The division of surface waters investigation consists of a corps of nearly one hundred technically trained engineers who have specialized along the lines of hydrometric investigation work. Years of experience under every known condition of stream flow from ice bound water conditions on huge navigable rivers to the semi-tropical conditions to be encountered along the Mexican border and in the Hawaiian Islands have developed the organization into a unit of high efficiency and morale,—a condition which has become considered so valuable and desirable that changes of administration or political power have left it intact. The publications of the U. S. Geological Survey are undoubtedly recognized as the highest authority along the subjects with which these deal. Notwithstanding this fact the annual federal appropriations to carry on the water surface investigations have been very small and entirely inadequate to carry out the investigation work desired, averaging for the past few years \$150,000.00 per annum for the entire forty-eight states and territories, Hawaii and Alaska.

In order that the investigation work might be carried on with a higher degree of expediency and efficiency, the various states and territories have adopted the policy of coöperative financial appropriations. In this way the water resources investigation

work of any state or territory may be pushed to the degree of expediency and efficiency desired, and the work receive the benefit of the training and experiences of the federal organization. The coöperative investigation of Hawaii's water resources was begun in October, 1909, when an engineer was detailed to this work by the Geological Survey. On July 1, 1910, a formal coöperative agreement was signed by the Governor and by the Director of the Survey, and since that time the work has been carried on along the lines of a definite policy.

Experience on the mainland and in other water using countries has pointed to the theory that the regimen of most streams seem to repeat in cycles of from ten to twenty years, or in other words, streams will reach an extremely high and low degree of discharge at least once in twenty years, and that continuous records covering that period will be almost certain to show the maximum floods and low water conditions of the streams to within a very small percentage of error. These periods of high and low water, of course, follow very closely the periods of maximum and minimum rainfall.

It has been assumed that the investigation of Hawaiian streams should cover a period of about fifteen years in order that an accurate knowledge of extreme conditions of flood and drought may be obtained.

There is probably no other entire topographic or geographic unit or group of units in the world, with the possible exception of parts of Egypt and India, in which the material prosperity of the land is more dependent on its water resources than in Hawaii.

While nature has treated us very kindly in the abundance of our rainfall, the fact remains that the normal or annual supply of our water is decidedly limited and should be carefully conserved and utilized that it may be invested to the best advantage, not only from a viewpoint of dollars produced by sugar, rice and taro cultivation, but to the best advantage in relation to the health and convenience of the people.

The fact that forest cover has a decided influence on the conservation and regulation of the water supply of Hawaii, has been generally conceded, and has resulted, during the past decade, in operations by the territory and by private parties tending toward not only the protection of existing forests by the creation and

maintenance of forest reserves, but by efforts to reforest areas already denuded of their former forest cover.

The question of how much water existed which might be conserved and the natural regimen of the various water sources, in their relation to topography, rainfall and forest cover, seems to have been looked at in a very superficial way until the latter part of 1909 when the importance of this question was recognized.

The first essential step in determining the course to be taken in the correct utilization of our water is undoubtedly an investigation of the amount available and this investigation should cover not only the waters of government-owned land, but those of privately-owned or controlled areas.

The Division of Hydrography of the Bureau of Agriculture and Forestry, working in coöperation with the United States Geological Survey is extending the investigation of the water resources of Hawaii as rapidly as funds available will permit.

It is estimated that at the present time about three-fourths of the perennial streams and springs on Kauai, Oahu, and Maui are under investigation, and that about one-half of all streams and springs of the Territory are being measured. In addition to this special investigations are being carried on in relation to the quantity of water furnished from government sources to private corporations, the question of increasing Honolulu's water supply, the amounts lost by seepage and other ditch losses, the amounts necessary for the proper irrigation of sugar cane under various conditions of soil, etc., and similar questions.

The economic utilization of Hawaii's natural water supply is one of the most important factors in the agriculture of the Territory, and one which calls for intense methods of investigation. The investigation of every perennial stream, spring, or other source of water supply should include the following:

1. At least fifteen years continuous gage height records. These should be obtained by automatic registers which give a continuous record, and which cannot make a mistake or falsify records as is frequently the case in man-read and recorded gage heights.

2. Sufficient measurements by weir or current meter to develop and maintain rating tables of discharge which may be applied to the recorded gage heights, and which will give the

mean or average discharge for every day in the year, as well as the maximum flood discharge and the minimum discharge.

3. Sufficient rainfall stations in the catchment areas of the stream, to enable the relation of the rainfall to run-off to be worked out, if possible.

4. A careful study of the topographic and geologic features, the vegetation, forestation, and erosive features of the catchment areas in reference to possible coöperative work with forestry or other conservation procedure.

5. An examination and investigation of all diversions from the streams and the present utilization thereof.

6. An investigation covering the possible utilization of any waste water, flood or otherwise, which might be economically utilized by diversions or storage.

7. An investigation of evaporation losses and of the amount of water utilized in plant transpiration and growth, or of, as it is commonly known, the water duty for various crops under various conditions of soil, location, etc.

The first four operations are the only ones which strictly apply to hydrographic investigation work, but as the hydrographic survey is a necessary preliminary step toward the last three investigations named, the two phases of the work should be kept in view and should be considered in conjunction.

AMONG the special articles prepared for the 1914 issue of the HAWAIIAN ANNUAL, commemorative of its 40th anniversary, were several that will bear with interest the lapse of time. While "Our Fortieth Anniversary" gave a succinct account of the commercial progress of Hawaii during the life-time of the ANNUAL, the descriptive and historic paper entitled, "In and Around Honolulu," conveys more than guide-book information on all points and places of interest to residents and visitors in our metropolis that may be used for reference for several years to come. Other articles of special reference value are: "Ancient Hawaiian Music," "Honolulu Sixty Years Ago" (continued in this issue by request), "History of Hawaiian Unskilled Labor," "Moanahua Horticultural Gardens," besides the usual variety of ANNUAL make-up.

HAWAII AND THE MARCONI GENIUS

BY D. L. MACKEYE.

ONCE upon a time, a small boy (I tremble to state how really short a time ago it was) swelled with a personal pride whenever he thought of the Lick Observatory on Mount Wilson. Its mere presence there, within sight of his home, exalted him far more than words can tell. Fired by Jules Verne and H. G. Wells, his imagination saw this world-famous telescope, plumbing the universe, adding to his prestige by its very proximity. He was, no doubt, intimate with the fantastic future of inter-planetary commerce simply because of this.

He saw entire communities living in one mammoth building, waited on by mysterious essences, enjoying unheard of luxuries and moving at the touch of a button. His boy's instincts felt around him the great new wonder and awe with which the world had just commenced to face its own future. It appeared to him that he was one of the chosen ones. He was a superior being. He already was in touch with the world to come.

Mature cynicism destroyed this delight. The boy's fine belief in the unbelievable suffered very much. A new foundation for belief was necessary, and lo, a blase age offered him nothing at all. In the age of wonders not a thing was wonderful.

In 1909 I landed for the first time in Honolulu, I suppose (for motives grow vague in five years) still on the search for the wonderful. I came from an enlightened and enlightening city, and had a good sense of proportion. I believed, together with other superstitions, in dusky islanders, dolce far niente days, the great "Beach," in shipwrecks, pith helmets and cocoanut fronds. As I believed, so I expected.

I remember the distinct shock of receiving wireless messages at sea. Once on shore (my beliefs and expectations by this time tattered and pitiful) I felt numbed when they offered me, as the customary and unwonderful means of communication, wireless telegraphy.

It is because the wireless is today so common and so commonly accepted that I still remember so vividly how great was my surprise when I first saw it as a public utility. There could have

been but one reason for it. I had come from a world to which the wireless was unknown except as a plaything, a ludicrous attempt to play superman, into a world where it had been in ordinary use for several years. Alas for provincialism!

Mind you, I know nothing of Hertzian waves except the bare theory. The elementary proposition of physics upon which wireless telegraphy is based are unrevealed wonders to me. Yet each year since that memorable one when I gained back my imaginative basis for my future-world I have, in one way or another found myself in usual "sympathy" with wireless. One can feel, as well, how a similar absorption in this method of communication has taken possession of the world.

Shortly after I came to Hawaii a great liner went down in mid-Atlantic with not a life lost. The rescue was effected solely by means of wireless, the first occasion in history, a veritable epoch. This romantic incident set the world temporarily mad; it bestowed upon the wireless operator on board its highest recognition, a lengthy contract on the vaudeville circuit. This incident had the effect of forcing great Pacific steamship companies to equip its vessels, under protest, with the wonderful apparatus; itself to benefit by it two months later when one of its own vessels was similarly rescued off the coast of China by wireless alone. I distinctly remember that my largest impression in connection with this chain of incidents was the purely egotistical one of pity for the rest of the world, that it should so show its irresponsible childishness when I, as an adopted Hawaiian, conversed with wireless every day.

The year following this the Titanic disaster occurred. Despite the short time that had elapsed since ship's wireless had been turned from fol-de-rol into a human necessity, the chief aftermath of this tragedy was one of indignation that vessels within helping distance had passed by because their wireless operators were asleep. The entire world joined in unusually stringent legislation literally imposing this great power on peoples too unimaginative to see the prophecy of it.

As a newspaperman, I rejoiced when I found myself on the first paper to be entirely served by wireless instead of telegraph, and that in Honolulu. Now, in the midst of the European war,

wireless is again the great and untried agent which makes it the war of wars.

So each year there has been something to increase my wonder in wireless telegraphy. The youngster's dream of futurity is coming back. I'll see it yet!

Several years ago I was on a hike across what had formerly been more or less waste Hawaii. Previous ventures had not been happy or comfortable. On this occasion, however, the bane of that previous travel had been smoothed away. Marconi himself, whom ten years before I had considered as an Italian person chiefly remarkable for the rhyming possibilities of his name with his national dish, had smoothed it for me. Under the lee of Koko crater, gaunt and lovable remains of an extinct horror, the Italian genius, under his own name was erecting what was to become the greatest wireless station in the world.

This station, eight miles from the outskirts of Honolulu, was, as I discovered on this same trip, but half of the Marconi "plant" on Hawaii. That the other half, an essential and integral part of it, was fifty miles distant and yet in as intimate touch with the other as if the two had been jointly housed impressed on me the annihilation of space caused by wireless telegraphy.

The Koko crater station is built at the foot of a sixteen hundred foot peak that dwarfs its towering masts and reduces its great buildings to gentler proportions. There are but two things of note on this corner of Oahu, this crater and this station, standing there together on the coral floor and even appearing to fraternize, though one speaks of the dreadful past and the other of the wonderful future. This station, costing a million, I dare say, when the pioneer road building, the planning and the unusual construction is taken into consideration, has nevertheless, but one function, receiving messages. Its sister station, on the opposite corner of the island, on the other hand, is used entirely for sending, though it is on the same magnificent scale.

The virile proportions of this undertaking are especially interesting in comparison with its surroundings in Hawaii. As yet they are utterly alien. Their solemnity but emphasizes the languid and tropic bay which laps at the foot of the one station, and the booming southern surf which crashes at the foot of the other. It may be that in California these incongruous contrasts are miss-

ing, that the Marshalls and Bolinas stations are more in accord with the atmosphere of the place, but in Hawaii they are things of the future. Nothing else in the South Seas, it seems, has come within a century of the progress for which they stand.

The Koko station, the receiving unit in Hawaii, deals solely with Bolinas, the sending unit of the California station, while the Kahuku station in like manner "sends" to the Marshalls station, the receiving unit on the mainland. Between the two Hawaiian units there is interposed first the Waimanalo cliffs and then the entire length of the Koolau range, isolating them to that degree required for their efficient operation. The nervous system which thus spans the entire Island of Oahu, ending in the antennae at the mast-heads of each unit, centers in the Honolulu office, the brain which controls each of the leaping sparks.

Literally they are the largest stations for radio-telegraphy in the world, intended to be a unit in that dream of Marconi which visualizes a world served from hemisphere to hemisphere solely by these invisible messages. The great capacity of the plants is necessitated by the fact that there sometimes occur short seasons of atmospheric disturbance when wireless transmission is far more difficult than under usual conditions. A large reserve of power is required; the engineers sacrilegiously anticipated the many meteorological revolts over the two thousand intervening miles of ocean which formerly nullified attempts to span this distance. The Marconi stations fear nothing from this source.

The plant at Kahuku is steam driven, every one of its parts in duplicate lest a defect develop in any of its units and place it out of commission, a prosaic possibility not to be thought of. The generators which supply power for the wireless transmitters are of three hundred kilowatts capacity, or about one hundred times the capacity of the usual wireless set on board ship, where wireless spent what may be called its infancy.

Construction work started on these plants in March, 1913, and continued for eighteen months before it became a commercial reality. First under the direction of Charles R. Guertler, who fell victim to a murderer's weapon before his work was completed, and later under N. L. Slaughter the work of building them was compelled into unusual channels. Not only did the remoteness of the islands from the centers manufacturing the

necessary materials greatly aggravate the tribulations of the engineers, but the character of the country intervening between the Hawaiian port of entry and the isolated spots where the stations were being constructed made things but little easier. The dirt road to Koko crater, which half of the day was well submerged beneath a careless high tide, had to be made to stand the tear of the five and ten-ton trucks that later streamed constantly back and forth. Hotels had to be built for the workmen and when the last preliminary was completed there was left the peculiar coral and other formations to struggle with beneath the foundations upon which to rise more than thirty thousand tons of concrete, several thousand tons of steel and other materials in proportion.

By July, 1914, work was so well along that preliminary tests were started with the California stations, these proving as satisfactory as could be desired. The final work of construction was completed early in September and the plants opened for public service on September 24, 1914.

This, then, completed one more step in that advance which it is hoped, will include the Orient and Australasia. Honolulu thus is destined to become the center of wireless communication between its parent country, two thousand miles to the northeast, and the great half of the world that spreads its mysterious breadth on the western and southern sides of the Pacific Ocean.

Just as the cable and the telephone were the logical followers of the principle of telegraphy, itself so recent a discovery, there are things to follow the adoption of the wireless. What it will be the parent of in that future world of mysterious essences, mechanical servants and magnificent ease remains to be seen, but here is their foundation. That they should be partly spawned from these stations on the volcanic shores of Hawaii is but part of the poesy in the prophecy.

KAUAI's literary "live-wire," Rev. J. M. Lydgate, has been instrumental in organizing a Historical Society for the "Garden Island," for the collection and preservation of data of historic interest."

SCIENCE AND OUR ISLAND SOCIOLOGY

BY ARTHUR JOHNSTONE.

THE violations of the laws of nature by our predecessors and our contemporaries are punished in us also. The disease and deformity around us certify the infraction of natural, intellectual, and moral laws, and often violation on violation to breed such compound misery. * * * Our culture, therefore, must not omit the arming of the man. Let him hear in season, that he is born into the state of war, and that the commonwealth and his own well-being require that he should not go dancing in the weeds of peace.—Emerson.

CIVICS is a term of recent origin which has been introduced to cover the relations existing between the social units, or citizens of a community, and the established government. In practice, however, it proves to be a term which is not nearly so flexible and comprehensive as the older expression "Sociology" or "Social Science." This will be seen whenever we are obliged to force the meaning of the term *Civics* so as to be able to include in its scope the many human motives and actions underlying sociology in general, and clearly adhering to our social growth during its stages of development; and, as we shall see further that individual acts and motives leave an impress on the welfare of the community both present and future, we shall find ourselves constrained to use the term *sociology* in the general sense, and *civics* in the special or ordinary way. The following instances of about four or five centuries apart, and ranging from the year 1200 A. D. to the present time, are introduced to illustrate to some extent a few of the acts and motives mentioned as weaving themselves into community sociology, and measuring in a way the civic condition and tenor of each period.

An old monkish chronicle in black letter informs the world that there was once a rogue of a priest who would begin an argument with his bishop on every occasion that offered, by calling in question one or another of the church's beliefs and traditions. The good bishop being of a congenial disposition, ere long fell so in love with his priest's liberality, wit, and address that he fetched him to live in the diocesan residence, where

the pair finally became boon companions in temporal affairs as well as in spiritual. Now one evening this roguish priest raised the question whether or not Seraphim fly by night—an enquiry which at first startled the orthodox bishop and caused him to frown; however, the insidious spirit of disputation triumphed, and, replenishing their glasses, they fell on the subject hammer and tongs. The argument flew this way and that in many a flanking effort, until at last the bishop got his priest in a logical corner, whence there seemed to be no escape except by admitting that Seraphim fly by day only. It was then that the inquisitive priest, who was only too well versed in scholastic logic, finding himself hard pressed, raised the previous question and flatly denied that there were Seraphim at all. He then demanded that the bishop should prove their existence before he could assert their aerial propulsion either by day or night. At this the bishop (so saith the chronicle) was greatly shocked, but believing that a fact was as easily established by argument as was the average speculative doctrine, he again took up the cudgels in vehement earnest. They soon learned, however, that the problem was both knotty and rebellious. Indeed, the document states that at the night's end the pair found themselves doubting the very existence of all Seraphim; nay, try they never so hard, they could fetch no evidence to bear either for or against the existence of such celestial beings. In other words they had fallen across one of the frequent traditional allegations which, unfortunately for the hypothesis whence they spring, can neither be proved nor disproved. When the truth burst upon them, they were in great trepidation at their imminent heresy; but in the end they agreed in the most shamefaced way to secrete all, lest the discovery of such an unexpected truth should shake the faith of believing laymen. The chronicle concludes with the familiar monkish moral, wholly in accord with the time and place, relating how the rogue of a priest by continuing his evil inquisition soon went back to the world and thence to the devil, while the good bishop sincerely repining for his error, did penance through the rest of his life. These men were in their degree the self-appointed overseers of their age—such as it was—but we would hardly call them, within the present meaning of the terms, either social or civic representatives.

The next is an instance where civic activity invaded the rights of the individual, who, in this case, was John Lowes, vicar of Brandeston, Suffolk, England, from 1596 to the time of his death in 1645 or 1646. The details are given by Jacob Larwood in his "Anecdotes of the Clergy," under the heading of "A Clerical Wizard," which follows a copy of the parish register, and is here condensed as follows: Hopkins, his chief accuser, charged the vicar with being a wizard, and having kept the poor old man, then in his eightieth year, awake for several days and nights together, running him about the room until he was breathless, submitting him to trial by water, and so forth, until he became delirious, finally drew from him a confession of familiarity with the devil. Mr. Larwood concludes the statement with the following words: "Mr. Lowes, it appears, upon his trial, maintained his innocence as long as he remained *compos mentis*. The confession extorted from him in his state of delirium was a very strange one. That two imps attended him, one of whom was always putting him upon doing some mischief; that once being near the sea, and seeing a ship under full sail, the mischievous imp requested him to be sent to sink it; that he consented to his importunity, and saw it, without any other apparent cause, immediately sink before him. Upon this confession he was sentenced to death, and being precluded Christian burial from the nature of his offence, he composedly and in an audible voice read the service over himself on his way to execution." Now these gentlemen, the layman who accused and the judges who condemned this poor old clergyman after sixty years of pure life and devoted labor for his people, like the rogue of a priest and the "good" bishop just mentioned, were the self-appointed leaders of social reforms, but acting under the protection of a nefarious law which measures the lacking of civic and social development just before the renaissance of science.

The last instance is taken from a recent public print, and is mentioned because it is typical of many others, and shows the lacking of too many of our modern civic reformers and social workers who are hampered by the old theories of sociology: in truth it demonstrates how good persons are often prone, while under partisan or sectarian inclinations, to substitute their own

ideas for the clear scientific facts before them, a course that is quite as objectionable as the immoral ignorance of the first instance cited, and the legal cruelty of the second. How deeply rooted and widely spread are such crude and narrow views of sociology will be more fully appreciated by considering the following pseudo-scientific phrases taken from a single paragraph of a lecture recently delivered in the good cause (when sanely advocated) of temperance. First, the lecturer declared that *altruism* is a science; secondly, that *altruism* is a new subject; and, thirdly, he asserted without the production of evidence, that our present-day civilization is constructed on the basal principle of *altruism*. In the same paragraph the names of two prominent scientific writers were so placed that by implication they bolster the lecturer's utterances, and make it seem as though scientific philosophy recognizes the old speculative dogmas wherewith his statements are in full accord. Of such triflers that benign satirist, Thomas Love Peacock, said in the middle of the last century, that to keep themselves before the public eye, such men would hold, "premises assumed without evidence, or in spite of it; and conclusions drawn from them so logically, that they must necessarily be erroneous." This satire will fit as many of the self-appointed teachers in the present as in the last century. On the other hand scientific philosophy denies in toto the lecturer's statements as quoted, and teaches that egoism and altruism are both primordial factors in the Science of Morals. In his epoch-making work on the "Principles of Morality," Herbert Spencer emphasizes this fact when he says that, "from the dawn of life, then, egoism has been dependent on altruism as altruism has been dependent on egoism, and in the course of evolution the reciprocal services of the two have been increasing." Elsewhere he holds in distinct terms that from the imperativeness of egoism and the imperativeness of altruism—the former preceding the latter in natural development—necessarily results civilization's material and moral advancement whenever and wherever these important factors are held in reciprocal balance, *but at no other time*. This is but one of the many modern instances of the statements put forth under the guise of sober science, wherein otherwise reputable men commit "misdemeanors

of evil example" while trying to reconcile outworn theories with the stubborn facts found standing everywhere throughout the physical and moral domains of modern science. It is now time to drop historical instances and pass to another phase underlying our civic activities.

Haeckel, the great scientist and philosopher of Germany, has said that, "the uneducated member of a civilized community is surrounded with countless enigmas at every step, as truly as the savage. But their number," he adds, "decreases with every stride of civilization and science." In Hawaii where we have done so much under untoward surroundings to establish civic work and aid social progress in the Islands, none will fail to see the broader implication underlying this statement, namely, that to meet modern conditions our sociology must closely follow the scientific method. Such a course will give local civics systematic promotion and intelligent interpretation, if carried forward under the direction of truthful, cultured, and conscientious leaders: under such conditions immediate social benefits will arise, and, if sufficient time be given, permanent results will accrue to the community and be transmitted to posterity. In another phrase the seeds of future development will be sown at the time when scientific education is being diffused, which, of course, must be fostered and sustained by examples of right-doing and right-living. In the end such efforts will reach ignorant and indifferent citizens (who are unfortunately a large part of every community) as well as the more responsible classes; and these latter on trial will be found to stand in more or less need of civic instruction and direction.

Let us further consider that the chief aim and end of civics should be to banish as far as possible from community life classes within the body politic, and thus slowly but surely to make good citizens out of the aggregation of social units. The awakening of general interest in this and cognate subjects dates from the last quarter of the nineteenth century, but even as early as the middle of that period scientists were calling attention to the condition of social stagnation which long had retarded in some of its more important phases, the general advancement of civilization. This fact has been emphasized by Alfred Russell Wallace—the co-discoverer with Darwin of the theory of natural

selection and development—in the following significant words: “Compared with our astounding progress in physical science and its practical application, our system of government, of administrative justice, and of national education, and our entire social and moral organization, remain in a state of barbarism.” From the relative point of view this is, unfortunately, too real a civic fact. It is true that it is here strongly stated, but not too strongly, since a casual view of the sources of sociology and ethnography will show how profound among the people is ignorance of the natural causes whose non-recognition or rejection becomes responsible for much of our social coil and flagrant moral transgressions. The social condition which, with its crude and narrow views of the wants of modern society and the remedies demanded by present ills, and that retards civic education by seriously hampering community advancement, is fully and continually illustrated in the daily press of all countries, but especially in that of democratic America.

The last, or the scientific form of ethic, comes to us as a highly specialized system of practical morals, and its advance over the old speculative systems which have dominated and too often retarded civilization for more than twenty-five centuries, has been within the last fifty years both signal and complete. Whoever inclines may read the evidence of this state of things in the multitudinous press and in the modern library; but perhaps the most sympathetic testimony will be found in the constant endeavors of the world’s old moral stewards to pour the new ethic wine into the old speculative bottles. How greatly it behooves us, then, to prepare further for our life work by developing our knowledge of the relations existing between causes and effects, original and secondary, as found constantly in nature; and this is important for all persons because such processes actually direct in a great measure our daily acts and conduct in general, despite the moral theories which have been woven from speculative beliefs. The demand of the present is for a moral system that shall deduce from nature’s sources and the daily processes of life, the greatest relative benefits and happiness for individuals and social communities as now existing, be they considered under the local or national phase. To reach such a result for humanity

scientific ethics point out, among many requisites, several which should be made mentors through life.

Here will be mentioned briefly a few of the more important points of the new ethic which underlie the world's social development, and indeed, directly apply to the life-phases of society from the individual and community points of view. From first to last the data of ethics and the data of civics coincide in form and substance; but as the proofs and demonstrations thereof are intricate and fill many pages, no further mention of them will be made here. The subject itself, under various forms, is an old one, which, becoming better understood since the renaissance of science, is now carried forward systematically in special departments of life- and nature-study. Such a plan serves to bring to a focus the knowledge we have thus far gained of the civic development of men, and of their rights and duties under the present state of civilization. In the end it will be found that we derive our moral maxims and rules, and hence those of our civics, from the laws of natural causation. These may come to us from original or numerous secondary sources, or by our inherited experiences from primitive times; to this starting point we can trace the basis of our present advancement and find its beginnings lying within the organization of the first social communities of eld—whatever these may have been. From such a source to the present our moral growth, which has preceded our material development and all else, has slowly and painfully arisen to its present estate to be the only sponser and guide of modern and future civilization.

From this fact we will be able to see why science demands that our morals be made more comprehensive and practical by being based first and last in physical nature, and hence why the development and education of our social units should proceed from the demonstrable fact of the relativity of knowledge. But in our daily and civic life she goes a step further and shows us why moral standards vary the world over and are continually shifting, so that each age and every nation has its standard, or standards, the measure of its place in civilization. Science also teaches that the community in reality, like the king of the legal fiction, never dies, and that the result of ill or well doing, which makes up the sum of life, will be found impressed on the com-

munity in some form after its social units have passed away. We are taught as well that there is a natural development of conduct, which is reciprocal to the physical evolution of bodily structure and function, so that individual conduct may be good, bad, or indifferent; and in truth our acts are determined to be good or bad as they are well or ill adjusted to the ends of private and community life. But before all science insists that education, under both the self-regarding and civic forms, shall be to learn the real nature of things rather than theories of them; hence education in general should be synthetic, so that we shall be able to grasp and use in daily and civic life the relations existing between causes and effects, which we invariably apply to the solution of the problems that surround us in the physical as well as in the mental world. This course is paramount because from such relations in nature we deduce all of our rules for the conduct of life, whereunder we formulate our community existence for good or ill results. From this basis it is that science informs us that the timely and proper performance of our physical and mental functions, for our own good and that of the state, becomes under natural law a moral obligation for each, and hence the civic duty of all citizens.

It becomes imperative, then, that in our sociological work we should heed the wisdom of Emerson, when he tells us, "Our culture, therefore, must not omit the arming of the man"; and at this point, fortunately, modern scientific tuition is as specific and definitive as the sage of Concord could have desired. Like Emerson, science insists that *veracity* is the primary basis of moral and civic life, applying to the field, the town, the government alike. From the speculative side comes the dictum of Sir William Hamilton, which was well enough in his day, that we must state "explicitly what we think implicitly." But this is not enough, and we now ask that every man be taught to verify his facts before he utters them. The scientific rule has been put in the following forms by Professor Huxley: "In matters of the intellect, follow your reason as far as it will take you, without regard to any other consideration. And negatively: In matters of the intellect do not pretend that conclusions are certain which are not demonstrated or demonstrable." From the moral point of view he elsewhere restates the principle which he says takes

various forms, as follows: "It is wrong for a man to say that he is certain of the objective truth of any proposition unless he can produce evidence which logically justifies that certainty." These simple rules, says this eminent scientist, are sufficient for our conduct and thinking in all the affairs of life, and which "if a man keep whole and undefiled, he shall not be ashamed to look the universe in the face, whatever the future may have in store for him."

Underlying these and like secondary rules which apply to man's social and civic state, will be found two sets of duties deep-planted in nature, the first of which he owes to himself, and the second he owes to his fellow-citizens and the state. The balance between these primary factors or duties—the first being self-regard or egoism, and the other altruism or the love of one's fellows—when justly held within the social organization is called, the Golden Rule of Morals, which in its present form is known to us as, "Do unto others as you would that they should do unto you." This rule, which has been handed down from the primitive ages, was formulated in the earliest historic times, the same in substance, and almost the same in words, in various places and by different sages and philosophers. As recorded in history it was first uttered by Pittacus, one of the seven wise men of Greece, six hundred and twenty years before Christ; by Confucius, five hundred years B. C.; by Aristotle it was taught in the middle of the fourth century B. C., as it was later by Thales, Isocrates, and others until the birth of Christ. Thence it has passed into all the world's religions from Judaism and Christianity, to modern Monism. Under these circumstances it is clear that we should so arm our civic man that he shall be willing to give to others all that natural justice allows them to ask of the community, or of the government. From the refusal of the individual, the politician, or the ruler—of each or of all of these—to grant this natural right, is due today much of our social and political disorder,—the forerunner of evil to the community, which may expand until the national existence itself is threatened and heroic remedies are at last demanded. Such things as this are but too well known to history.

There is another phase of the "arming of the man" that is of the greatest importance because social organizations and com-

munity ethics are at present too often defaced by the rigmarole and the moral namby-pamby of life, which we are most prone to apply in our daily intercourse to the facts and conduct of our fellow-creatures. Hence it is necessary that the civic man should carefully search himself and scan narrowly his own personal conduct and opinions. In making this effort he will find that it is really hard work to think rigorously and effectively, while it is quite easy to think as most of us do, by merely reflecting or repeating the opinions of others, or using imaginary or unverified facts without the necessary logical order and sequence. But in any event it will be the best for him to bite into the meat of things at once by attempting to verify each and every opinion and belief as it comes before him; the result will doubtless be somewhat surprising to the uninitiated. For instance, it will be learned that in nature there is no such thing as *chance*; that *compensation* is the schoolman's myth; that *beliefs* can be no wider than experience; that the *laws of nature* are not objective realities; that by no human intellect can a *belief* be changed into an objective reality; and finally after learning many things, it will be realized that underlying all of the activities of life is the *uniformity of nature* which makes our human experiences uniform in time and place.

Applying these and many similar scientific truths to daily life, it will be easy for the civic man to learn that much of the physical energy expended in reforms is as good as wasted, simply because the natural causes of abuses are overlooked or ignorantly denied. He will see that many of our present reformers begin work by unwittingly dealing with effects and seldom coming nigh the causes of the social errors to be cured. Instructed civic workers wonder at such things and generally stand aside; but the enthusiast upon failure or rebuff, simply preens his ruffled feathers and begins another reform where common sense can see no possibility of success. These pseudo-reforms harass almost every community that is out of its swaddling cloth; but an enquiry will show in most cases that they are based on some impractical theory of morals, or of politics, or on some hypothesis of religion not germane to the case, or on some combination of these, which their promoters hope to apply to the practical direction of individual life, and hence to the community's betterment. Their en-

deavor is laudable, but unfortunately assumes the sufficiency of the underlying theory or theories. It is hardly necessary to point out in this scientific age, that theories before verification are not to be used as the objective realities of life and thought; and scientific ethics has long sounded the warning that whoever uses a mere theory as if it were verified, commits an immoral act and does a wrong to the community at large. It will be very well, then, for the civic worker to remember, that if his knowledge of things is founded in nature, is verified by scientific method, and follows a logical procedure, his activities thereunder will be effective and conditions will be bettered; but if he proceed on a basis of speculative theory—that will not square with nature in nine cases out of ten—then at the best his activities will have the least effect, because at every turn he will be hampered by a conflict of opposing conditions. This in the end means the failure of otherwise worthy social and civic energies, wherever and however they may be expended for human advancement.

To the average man this subject will seem most difficult and complex, as it really is. If to any it appears, “as easy as editing a paper or preaching a sermon,” such person will soon learn that it is the most rebellious of modern sciences and the most difficult to fetch within the grasp of a generalization, whence we can deduce rules for the practical direction of modern life. Here the need is emphasized that civic workers should be fully informed in scientific methods, so that they shall not misinform those who listen to their teachings. For illustration—there are very real causes behind the statments quoted above from Mr. Wallace, which lie at the root of the social and civic evils which we are daily trying to remedy. If his statements are intelligently investigated and the proper remedies applied, a general forward movement in civilization will result; if they are neglected as in the past, the result will be continued social stagnation, if no worse. Science is already several ages ahead of the masses of the people in achievement and thought, and hence the more imperative becomes our civic duty to see that hereafter only verified knowledge be taught to citizens or diffused to the general public and the children. Nature has created the sole permanent aristocracy, one which our widest philosophy defines to be, the arrival and survival of the fittest men. In Hawaii the rule holds

as elsewhere, and we shall find that the fittest of our citizens must be the teachers and armorers of their brothers—the present and future guardians of these midsea islands.

But let us never forget that we are the wards of Nature, and that during our brief span we must faithfully obey her verified laws, ceasing to encroach through our speculations on those of her prerogatives which are still hidden from us, lest it be the worse for the community and our posterity. Many are loath to break away from the old forms, fearing that the moral world and civilization will go to pot. But this fear seems to be imaginary since science has discovered for us that originally morality developed out of the necessities of primitive society, being in fact the continuous growth of human experiences from primitive man to the present time. Modern scientific ethic, then, has reached us through inherited instincts, carried forward by mental and physical development, and aided by natural adaptations from age to age. Thus it will be seen that “the bonds of human society”—so dear to the speculative heart—in reality lie within the very depths of human nature. Science concludes from these and like facts, that our social and civic advancement would not “relapse,” although it were possible—which happily it is not—to blot out of existence our present philosophical, religious, and political systems. The reason is simple but cogent: In nature our moral and social growth preceded the development of these systems, as it has that of all the other factors of civilization.

Owing to the rapid changes which have taken place in recent years, local conditions will have more to do with the island sociology of the future. At present we are comparatively a new, and certainly a heterogeneous, community. Naturally our moral and social conditions differ somewhat widely from the older states of the mainland of America, and still more widely from those of European countries. In fact our conditions can only be compared justly with the more advanced frontier ports around the Pacific, and hence it falls to our lot, as in the past, for us to formulate original courses of procedure adapted to our time and place. Comparatively speaking we have done much for moral and civic advancement, yet the fair-minded must admit that some of our work has had to overcome unnecessary cross-purposes,

sometimes merely scratching the surface of things instead of ploughing deeply for community betterment. All must admit that we have never gone to work in an organized and scientific way. The time has arrived when this must be done and well done, if we wish to continue to advance in commerce and expand as a civic community. In preliminary efforts to this end every unprejudiced citizen will recognize that the Honolulu Ad Club easily stands in the front rank. If, therefore, this valuable and enterprising civic body will but widen its present scope a bit, by starting a movement to give each island of the group a Civic Auditorium, furnished with a suitable library on sociology and kindred subjects, and see that scientifically informed lecturers are provided as needs demand, it will do more at a stroke for our future civic welfare than has hitherto been accomplished by any private individual or organized body in Hawaii nei. By such means the masses of a people where extremes meet will be directly taught, and shall thus soon be able to teach others; our civic and social work will go forward in earnest, and by following scientific methods rigorously, we shall ere long find ourselves equipped to make these Islands the *Civic*, as they now are the material, Paradise of the Pacific.

A TRIBUTE.—After a long illness Curtis J. Lyons was called to his rest September 24th, 1914, at the ripe age of eighty-one years. Up to the time of his nervous prostration, some ten years ago, his services in connection with the government survey department, almost from its inception, made him, with his scholarly attainments and intimate knowledge of the country and language, a recognized authority on all land matters. He was also the father of Hawaii's weather bureau. In his death the ANNUAL loses an appreciative co-worker. For over a quarter of a century, so long as physically able, his valued services and suggestions could ever be sought with confidence.

THE VANISHING KULEANA

By J. M. LYDGATE.

THE material basis of Hawaiian National Manhood, historically, is the Kuleana. In primitive times the idea of absolute ownership was unknown; no one could possess more than a life interest at best in any real property. Mere tenants at will, paying a prohibitive rental of upwards of two-thirds of their produce, there was little reward for thrift, and little incentive to development.

In 1848 the great Mahele was made by which the common people received, in fee simple, the little farms which they were actually occupying and cultivating, upon the payment of a nominal fee for survey and patent.

These "Kuleanas" or shares—for such is the significance of the word—aggregated 11,309 actual grants. I question whether any people, ancient or modern, ever constituted so general a body of independent land owners. The population of Hawaii at this time was about 80,000, or say 16,000 families, or a fee simple holding of two out of every three families. And these Kuleanas were family holdings, since they were the farms on which the families were living and from which they derived their support.

France is the classic example, among modern peoples, of peasant proprietorship, yet we find in France, apparently, two million holdings to seven million families, or one holding to three and a half families.

The Hawaiians were emphatically an agricultural people—of necessity. Agriculture was almost their sole means of livelihood. There was practically no manufacturing, no business, no means of transportation. For the overwhelming majority, if a man was going to live at all, he must make his living out of the soil. Pa-hales, or houselots, were almost, if not quite, universally contingent to arable land, occupied and cultivated by the holder, so that practically every Kuleana meant a farm. Houselots, pure and simple, after the manner of our modern city lots, were practically unknown.

For a people long inured to the uncertainties of an autocratic

tenancy-at-will, the promise of a fee simple ownership, that should be valid against the capricious will of the chiefs, was so new, and so incredible that the simple Hawaiian could scarcely believe his ears, and consequently many were indifferent, and remiss, about complying with the simple requirements, and making good their claims. "Why waste time or effort on the matter? The feudal chief would take the land away whenever it pleased him, as he had always done!"

And this incredulity, and timidity, some of the chiefs did their utmost to foster, and by secret, if not by open, intimidation sought, more or less successfully, to restrain their tenants from taking advantage of their Kuleana rights. So we find certain lands, thickly peopled in olden times, and well suited to agriculture, entirely destitute of Kuleana holdings, the assigned reason being, "The Alii wouldn't have it, and drove the surveyors off!"

The delimitation and description of these 11,000 and odd Kuleanas, many of them consisting of two, three, or four, parcels, scattered far and wide among the different islands, was, in those primitive days, a pretty big undertaking. Surveyors of the necessary technical skill, and even a superficial knowledge of the language, were few and far between. Men, who, having these qualifications, were willing to endure the necessary hardships, and were furthermore to be relied upon to do honest work, were fewer still. The men available, who could best meet these requirements, were the resident missionaries and their sons, who, though they might fall short somewhat in technical skill, more than made up for this deficiency in other ways;—knowledge of the language, moral reliability, and a conscientious readiness to make any reasonable sacrifice in the interest of the common people. Naturally, however, this was a serious departure from their more legitimate, and more pressing, moral and spiritual duties, and only to a limited extent could they afford to turn aside to this collateral interest, however important it might seem to be. One of the unrecognized debts that the Hawaiian people, and their heirs, owe to the missionaries, is that of a grateful appreciation for the important service which they rendered in thus assisting the Hawaiians to their lands.

With the men and means at hand, and under the pressure of

unavoidable haste, anything better than magnetic surveys was perhaps not to be thought of. Furthermore, the special inadequacy of the magnetic needle in these islands, where there is so much disturbing local attraction, was not realized.

At any rate the work was undertaken on a magnetic basis, with the simplest kind of equipment which would do the work.

Even with these limitations, most of the surveys, which were carefully made, are reasonably satisfactory. But very many were not carefully made; in fact, very many were negligently, and even fraudulently, made with apparently no adequate realization of the importance of the interests involved.

It is charged that one particular surveyor, who did a large part of the Kuleana work, was in the habit of asking the applicant to point out the proposed boundaries, which were then incorporated into an imaginary description, without further measurement. And I am more than half inclined to believe the charge, incredible as it may seem. Certain it is, many of these descriptions can be accounted for only on some such imaginary basis—they do not at all fit the man's claim, or the local conditions.

It is unfortunate that a little more system could not have been used in making these surveys. Made about the same time, made oftentimes by the same surveyor, the surveys as a rule do not fit together, there being oftentimes strange gaps, and stranger over-laps, which lead to much uncertainty and confusion. The Kuleana system of a populous land is an intricate dissected puzzle, which must be put together with parts that do not fit and parts that are missing. It is unfortunate that the one man, who cut up the puzzle, and knew how the pieces *should* go together, didn't make a general map, which could be kept on file somewhere as a sort of key, to insure the correctness of the solution. Instead, the individual bits were handed out, and it was "up to" the interested parties to fit them together.

It is also unfortunate that there was no system of marking boundaries. With sublime indifference to all subsequent problems of location, the survey very commonly starts, say at the northeast corner, sometimes at a stake or bush, and proceeds to a finish without other indication of its whereabouts. The stake or bush

has long since disappeared, there are myriads of northeast corners, and there is no means of knowing where this particular one is.

This defect isn't perhaps as culpable as it may seem however. The resident proprietor knew his bounds perfectly, his children knew them, his neighbors knew them; they had come down from time immemorial. The one authoritative title to him was tradition. It simply transcended his imagination that any time could come when he, or his descendants, would not know the bounds of that claim.

A more systematic and more scientific survey would have referred that initial northeast corner to some natural object, or some well-established point—so many feet away in such a direction. The more careful surveyors did this to a limited extent. Had the actual outcome been more intelligently considered, at least a more careful description might have been given, noting the location of ditches, rocks, dykes, etc.

Perhaps it may be thought that the marking of his boundaries was incumbent on the owner and not on the surveyor. The simple Hawaiian, as I have said, didn't recognize the need for marking bounds, with which he was perfectly familiar. Furthermore he had the utmost confidence in the qualifications of the compass to find these boundaries, that's what it was for!

These precautions prove to have been the more necessary because the holdings have been exposed to what may be called "universal internal attack." Familiar with his own bounds, each holder has sought to juggle them in his own interests. Of course, when the Kuleanas were locked together in a close fitting system this could not be done. But frequently there were unappropriated gaps which could be absorbed, or extensions could be made on the outer perimeter of the series. Strange to say, by some automatic process of digestion and assimilation, these seizures are more or less thoroughly distributed over the whole system.

The consequence is that the resulting Chinese puzzle bears only a suggestive relation to the original; somewhat the relation per-

haps that the substantial matron of sixty does to the spare and graceful girl of sixteen.

The *raison d'être* of the Kuleana was the resident proprietor: if he had been an absentee he wouldn't have got any Kuleana, and there is some evidence to show that at first actual residence was a condition of retaining it. The feudal chief was an absentee landlord, but the Kuleana owner was attached to the land. The Kuleana was granted to him, not as property, nor for speculative purposes, but as a home, which he should occupy and enjoy, and out of which he should make his living. But it wasn't long before this condition of things began to change. The decadence of population here and there left deserted claims. The inauguration of the sugar business afforded opportunities of labor, a certain income and a more gregarious life, and these attractions drew many away from the meagre life of the Kuleana. The meretricious attractions of the town, especially Honolulu, more and more lured away the country people, at first perhaps for a visit, a taste, but finally for permanent residence. The Kuleana was deserted, or rented out to other parties. Within the sphere of the sugar or rice plantation the Kuleana was naturally swept in as into a maelstrom. The Kuleanas were ordinarily the cream of the land—scattered as plums through the pudding—to have the pudding without the plums was intolerable. Once having passed into the possession of the plantation, whether by lease or purchase the bounds and identity of the Kuleana were gone. The boundary hedges, or fences, were cut down, the *ku-aunas* or dykes, were levelled off, the ditches were filled up, the fruit trees sacrificed, and when the middle-aged owner came back from Honolulu to see the place which was dear to him from childhood, he simply couldn't find it! All he could be sure of was, "It was somewhere there in that great field of cane or rice!" There was no use clinging to a sentiment "Why not let the *haole* have it if he was willing to pay for it!" Or, when, later on, his children came back to find the ancestral estate, there was no longer any one to tell them where it was. The plantation manager had changed, and the new man knew nothing about Kuleanas. All he knew was that he had a bunch of leases in the safe, he would look them over,

"What was the name? Keawe? Yes, here it is, No. 43. Situated in the Ili of Wai-momona, Hanalei." Where was Wai-momona? He didn't know and nobody else knew. In the early days every man, woman, and child for a dozen miles about, could have told you where Wai-momona was, but now nobody knew.

And this is no imaginary condition of things. There are today whole rafts of Kuleanas that are *lost*; Chinese puzzles of such **uncommon** perversity that they won't go together on paper, and so "made-over" in appearance that they can't be located, even hypothetically, on the ground.

And this loss of identity operates still farther to discredit the Kuleana in the eyes of its owner and to lessen its value. It would be an expensive matter for Keawe to establish the identity and **location** of his Kuleana. It would mean a lawyer, and a surveyor, **and** witnesses, and perhaps a lengthy process of litigation, the final outcome of which, at best, would be a bill of expenses larger than the value of the Kuleana. And then when he gets his Kuleana what can he do with it? He has alienated the good will of the estate in the midst of which his little holding is situated, to which alone it is of any considerable value. No one else wants to lease it, just because it is isolated and cut off. And if he proposes to live on it himself he must make up his mind to lead a lonely life, shut up in the midst of the enemies' country, and to put up with all sorts of hectoring annoyances contingent on a more or less determined persecution.

The ordinary Hawaiian is no fighter. The more clearly he understands the situation, the more reluctant he is to undertake so aggressive a policy. "Better let the haole have the land!" This he generally does, making the best terms he can, sometimes by direct sale, more often by incumbering it with a mortgage, the interest on which rapidly overtakes the principal, and undermines the advantage of the loan; the loss of the Kuleana is assured. If he were wise, he might, of course, buy a similar Kuleana, in the vicinity, or elsewhere and thus retain his status as a land-holder. But this he seldom does. He has money in his pockets, and the city offers many alluring means of spending it. He hastens thither and his money is soon gone, and this, of course, means the loss of his land.

Nor is this a fanciful theory tenable only on paper, correct perhaps in the individual instance but faulty in the aggregate. Of course, the only absolutely convincing statistics would be those covering the actual ownership of all the original Kuleanas throughout the islands. Such statistics are not at hand, and could not be collated without a large expenditure of time and energy. But, without serious probability of error, a single island may be taken as typical of the whole. A fairly intimate knowledge of the Kuleanas of Kauai, gained during upwards of twenty years' study of them, backed by investigations kindly made for me by the island tax assessor, show pretty conclusively that *one-third* of the original Kuleanas have passed into the hands of the agricultural corporations and individuals of the landlord class, thus alienating them almost entirely from the purpose for which they were originally intended. Furthermore I think I am safe in assuming that another third are in the process of transfer—being under mortgage with no prospect of redemption—or have been deserted, abandoned or lost, so that I doubt whether more than one-third of the original 937 Kuleanas granted on the island of Kauai, are now in the actual possession of hands in any way akin to the original owners, and for the purposes originally intended.

This is an unfortunate, but perhaps an inevitable condition of things; an inevitable readjustment to changing relations. The Kuleana system was admirably adapted to the conditions of 1850, it is not suited to the conditions of 1914,—perhaps it is the misfortune, not to say the fault, of 1914 that this is so. We are endeavoring, along other lines, to get back to somewhat the condition of 1850 as yet without signal success.

Whatever there may be in store for us in the way of the small farm of the future, it looks as though the small farm of the past, as a distinctive element of our community economy, were doomed to extinction.

The *Pennsylvanian*, with sugar cargo of nearly 8000 tons, passed through the Canal eastward, August 17th, and the same day the *Missourian* came through with a heavy cargo westward, arriving here September 16th. This event, Hawaii's first through cargo, was recognized in a complimentary manner by the Chamber of Commerce of Honolulu.

HONOLULU HARBOR EXTENTION PLANS

CONSIDERATION of the needs of Honolulu for the enlargement of her harbor area, with storage and wharf facilities commensurate with the growing commerce of the port, long looked upon as a possibility, is forcing itself for decisive action in the very near future. The completion of the Panama Canal and the natural effect therefrom upon the maritime trade and commerce of the Pacific will be such that Hawaii, as the "Cross-roads," is destined to have a share. The additional harbor space contemplates the utilization of the Kalihi basin, to the north of the Iwilei district, with a six hundred-foot channel connecting the two dredged to sufficient depth to meet the requirements of the port.

It is now over twelve years since provision was made for this contemplated enlargement when a compromise agreement was made between the claimants of Land Patent No. 8150 and the government, under which said patent was granted to them for all of the dry land covered thereby, plus certain "tide lands" up to the line which is now the mauka, or shore, boundary of the proposed extension of Honolulu Harbor to the Kalihi Basin, upon the following conditions, however :

"That an open and unobstructed passage or water way be forever maintained along the south side of said division line, of premises patented to the claimants, out of the portion of said premises to be conveyed to the United States, of a width of six hundred feet, which shall at all times be open to navigation and be treated as a part of the navigable portion of the Honolulu Harbor and along which the holders of the title of said William Sumner shall at all times have full and unobstructed wharfage privileges and riparian rights, as appurtenant to the portion of said premises not conveyed to the United States; including the right to dredge and deepen said water way from time to time to such extent as to said parties shall seem best."

Thus was contemplated and provision made for the needed channel to connect Honolulu Harbor with the Kalihi Basin, where a larger harbor area would be available and dredging work neces-

sary for extra wharfage could be readily affected. Surveys and official reports thereon have been made under provision in the "River and Harbor Act of 1893 for a preliminary examination of Kalihi Harbor and Channel, Honolulu." The Board of Engineers to whom it was referred reported in substance, as follows:

"The District Officer on the survey reported favorably for the improvement of the locality to the extent of recommending that the 'Reserved Channel' be dredged to a depth of thirty-five feet and a width of 400 feet, with a turning basin about 1000 feet square in Kapalama Basin, at an estimated cost of \$900,000 for first construction and \$8000 annually for maintenance, on condition that the Territory of Hawaii reserve certain space for public wharfage.

"In accordance with law, the report has been referred to the Board of Engineers for Rivers and Harbors for consideration and recommendation. From the information presented, the Board is not convinced of the advisability of the United States undertaking any additional improvement at this locality at the present time for the following reasons:

"(a) It does not appear that the harbor of Honolulu is at present crowded or congested, or that the wharfage space now utilized or available for development is insufficient to accommodate present and immediately prospective commerce.

"(b) It is not believed that the improvement would result in benefits to the general public commensurate with the expense involved.

"All parties interested in the proposed improvement are invited to submit, within a period of sixty days from the date of this notice, statements and arguments bearing upon the necessity for the improvement in the interests of commerce and navigation."

This adverse report on the project, with its invitation to "present statements showing its necessity in the interests of commerce and navigation," showed that those back of these far-reaching public improvements were required to get busy. Brought to the attention of the Chamber of Commerce of Honolulu, the subject was referred to its Committee on Maritime Affairs and received careful consideration. Its report upon the port condi-

tions, present and prospective, was duly adopted by the Chamber and submitted with supporting statements by the several officials of the port, and the various steamship agencies established here, as also sundry exhibits of statistics, etc., in support of the facts presented. This array of evidence in pamphlet form, with exhibits referred to, went forward to Washington early in July, as did also an official report from the Governor on the subject.

From this pamphlet report are made the following excerpts:

REPORT OF MARITIME COMMITTEE.

To the Trustees of the Honolulu Chamber of Commerce.

Gentlemen:—Your Committee on Maritime Affairs, to whom was referred the above subject for consideration, begs to report that * * * it is unanimous in the belief that the proposed harbor extension is vitally and urgently needed to meet the immediate future commercial requirements of the Territory of Hawaii.

It is extremely difficult to predict exact dimensions to which commerce and shipping will expand upon the Pacific, but your committee submits that it is fair to judge the future by the past, and that an examination of the past statistics and present conditions of commerce and shipping demonstrates that the present size and facilities of Honolulu harbor are entirely insufficient to meet the immediate future needs of the port.

In support of this claim your committee submits official statistics showing:

(1) That since 1901, the first full year since the United States took over the administration of the customs of this Territory, the imports of the Territory have increased from \$24,964,693 in 1901 to \$37,519,620 in 1913.

(2) That in the same period the exports have increased from \$29,342,697 in 1901 to \$43,471,830 in 1913.

(3) That the total exterior commerce of the Territory has increased from \$54,307,390 in 1901 to \$80,991,450 in 1913.

(4) That the Inter-Island steamers entering Honolulu harbor have increased from 654 in 1909 to 752 in 1913, and from a tonnage of 268,000 in 1909 to 366,000 in 1913, and this in spite of the fact that large amounts of merchandise are being imported at several other ports of the Islands.

(5) That the number of deep-sea vessels (exclusive of inter-island shipping) entering Honolulu harbor has increased in net register from 897,000 tons in 1901 to 1,508,000 tons in 1913.

That the total number of vessels entering Honolulu harbor during 1909 to 1913, both dates inclusive, has increased in number from 1910 in 1909 to 1174 in 1913, and in registered tonnage from 1,480,000 tons in 1909 to 1,874,000 tons in 1913.

ONLY PORT OF SUPPLY IN LARGEST AREA ON EARTH.

The committee begs to point out that the Harbor of Honolulu is the only port in the entire North Pacific, within a distance of approximately five thousand miles north and south, and eight thousand miles east and west, in which a pound of food, a gallon of water or a ton of fuel can be obtained by passing ships. This is by far the largest area on earth dependent upon a single port.

Two other harbors in the Hawaiian Islands—one at Kahului and one at Hilo—are in process of development, so that, eventually, they will also, to a certain extent, be able to meet the necessities of shipping; but they are not yet in such condition.

PRESENT AREA OF HONOLULU HARBOR ONLY 97 ACRES.

The present Harbor of Honolulu is of an area of only ninety-seven acres, including all spaces between wharves.

When the American fleet of sixteen battleships went around the world in 1908, only five of them at a time could enter Honolulu harbor for the purpose of coaling and refitting. There was not even room for the others to anchor inside the harbor; they had to lie outside in the open ocean.

Too great emphasis cannot be laid upon the fact of this extremely limited area, in a port which is "the crossroads" of every principal commercial highway across the Pacific.

It cannot continue to adequately serve the necessities of commerce, if there is any material increase in the number of ships calling at this port.

A harbor containing only ninety-seven acres, averaging about 1500 feet in width, with a minimum width of 1100 feet, is so small that the turning of a medium-sized ocean-going steamer therein is a slow and tedious process.

Only one ocean steamer at a time can safely enter or leave Honolulu harbor.

One steamer, in the act of turning around, blocks the whole harbor until the operation is completed.

Time is the essence of economy in the operation of ocean steamers.

If Honolulu is to retain its position as a commercial and shipping center, it must be able to offer prompt and efficient port facilities.

HONOLULU PORT OF CALL OF ALL TRANS-PACIFIC LINES SOUTH OF
PORTLAND.

Every regular trans-Pacific steamship line operating south of Portland, Oregon, is now making use of Honolulu harbor as a port of call for commerce and supplies, including:

The Pacific Mail Steamship Company, operating between San Francisco, Japan, China and the Philippines, with seven steamers;

The Toyo Kisen Kaisha, operating one line between China, Japan and San Francisco, and another line between China and Japan and the coast of Central and South America, with eight steamers;

A line is already announced to operate through the Panama Canal to New York as soon as the Canal is open;

The Oceanic Steamship Company, operating between San Francisco, Honolulu and Australia, with three steamers;

The Matson Navigation Company, operating between Seattle, Portland, San Francisco and Hawaii, with seven steamers and several sailing vessels;

The American-Hawaiian Steamship Company, operating between New York, San Diego, San Francisco, Portland, Seattle and Honolulu;

The Canadian-Australasian Steamship Company, operating between British Columbia, Honolulu and Australia, with three steamers;

The United States Transport Service, operating between San Francisco, Seattle and the Philippines;

The Union Oil Company, the Associated Oil Company, and the Standard Oil Company, each operating oil-tank steamers between the Pacific Coast and Hawaii.

The Inter-Island Steam Navigation Company, operating a fleet of sixteen steamers between the ports of the Islands.

In addition there is a large and increasing number of irregular vessels bringing lumber, fertilizing material and coal for use by the United States Army and Navy; and for supplies to passing vessels and for private local consumption as well; and also an increasing number of through vessels from the Pacific Coast to Australia and other Southern colonies which stop at Honolulu for fuel and other supplies.

There are also, from time to time, numerous naval vessels of the United States and of foreign countries calling at Honolulu.

There is also a fleet of 220 registered fishing vessels, chiefly gasoline power boats. These are small, but, by reason of their numbers, occupy a considerable part of this small harbor.

NUMBER OF WHARVES IN HONOLULU HARBOR INADEQUATE.

There are at present in Honolulu harbor only twenty-two berths of sufficient size and depth of water alongside to accommodate ocean-going steamers.

Of these, one is owned and monopolized by the United States Quarantine Service;

Three are owned and monopolized by the Navy Department;

One is privately owned and occupied by a coal handling plant;

Seven are owned by the Railroad Company and reserved primarily for ships having business with it.

This leaves ten berths for use by the regular steam lines above enumerated, and also by irregular steamers and sailing vessels. While such use is not always continuous, the calls of such vessels are so frequent as to leave little or no leeway for additional vessels.

The daily expense of operation of an ocean steamer of the first class is so great, that such a thing as waiting for a wharf at which to operate cannot be tolerated. Steamers simply will not go to a port where such conditions exist.

There is shore line along the harbor available for the location of a few more wharves large enough for ocean steamers; but this slight addition to the wharf room of the harbor will not materially change conditions. For example, two more berths can be secured by destroying the marine railway and dredging a 500-

foot slip in hard coral; but the government has only a 19-year lease on this site, and the construction would be very expensive. Two berths can also be made by additional dredging between the Matson and Hackfeld wharves. There is space along the harbor entrance, south of the channel wharf, but this is along U. S. Army reservation, and is not available for commercial use. Two berths for ocean steamers can also be secured at the foot of Fort street, by replacing the present short wharves by two long bulkhead berths. This will soon be done.

MORE ANCHORAGE ROOM IN THE HARBOR REQUIRED.

The lack of wharves with adequate fuel-loading facilities, both for coal and oil, has caused the construction of lighters for the purpose, and it is not, therefore, necessary in all cases for ships desiring fuel supply to come to a wharf; but upon many occasions it is too rough outside of the harbor for such lighters to be able to furnish fuel to ships anchored in the outer roadstead. The ships should be able to anchor in still water. This can only be provided by extending and enlarging the harbor.

Formerly, when commerce was carried on by smaller vessels, ships unable to get to a wharf, anchored in the harbor. Ocean-going steamers have grown in size so rapidly that a wharf must be at least 500 feet long to be considered as available for ocean steamer service.

There is no longer room in the harbor for ocean steamers to anchor away from the wharves. At the former harbor anchorage grounds the harbor is only 1100 feet wide, and a 500-foot steamer anchored there would block the harbor. As above noted, five battleships, in addition to the regular mercantile ships, filled the harbor, as far back as 1908. Likewise, whenever the U. S. North Pacific fleet of cruisers visits Honolulu, it fills the harbor to capacity.

While no one can predict exactly what number of additional ships will cross the Pacific, or come to Honolulu after the opening of the Panama Canal, it is submitted that the people of Hawaii are justified in basing, at least to some extent, their estimates of probable increase of commerce upon the same general estimates and expectations that are being used by all other ports

surrounding the Pacific; and these, without exception, are to the effect that shipping and commerce will be greatly increased.

Ports all around the Pacific are improving and enlarging their shipping facilities to the extent of millions of dollars, in the confident expectation of an early and great increase of shipping and commerce.

With equal certainty, even though Hawaii does not directly increase its shipping and commerce to the same extent as do mainland ports, or even at all, the incidental effect of the increase of business by other Pacific ports will be to also increase the business of the port of Honolulu, as the ships transacting such increased business of other ports, stop at Honolulu as an incidental port of call and supply.

WHY HONOLULU COMMERCE IS EXPECTED TO INCREASE.

Honolulu alone is making no additional preparation for an increase of business. Why?

Is it reasonable or logical to believe that after years of rapid and steady growth, the commerce of Honolulu is going to suddenly stop growing?

Is it reasonable or logical to expect that the business of every other port in the Pacific will increase after the Panama Canal is in operation—and such result is confidently expected—and that the business of Honolulu alone will not increase?

We submit that it is reasonable and logical to expect that the normal growth of the commerce of Hawaii, for the past ten years, will continue, or at least will not retrograde, and that the anticipated stimulating effect upon other Pacific ports occasioned by the opening of the Panama Canal, will produce like results upon the business of Honolulu, the most centrally located port of them all.

Your committee desires to further call attention to the fact that the proposed improvement has been, in certain connections, referred to as a new proposition.

This characterization has been based on a suggestion that a new entrance be dredged through the reef from deep water to the Kapalama Basin, and the preparation of a map showing the location of the same.

Your committee desires to emphasize the fact that no such new project is planned, advocated or desired. The improvement that is under consideration, that is desired and needed, is simply a moderate extension of the present harbor of Honolulu; a project long considered and contemplated, and merely a logical continuation of the harbor improvement that has been going on for the past twenty years.

In support of this point your committee would call special attention to the agreement entered into between the United States Government and the Oahu Railway and Land Company and the Dowsett Estate Company in the year 1902, under which the improvement in question was definitely referred to and made the basis of said agreement, which, in effect, was the surrender by said corporations of their claim to 550 acres of land and tide lands, including the location of said proposed extension of Honolulu harbor, upon condition that when the extension now under consideration was made, it should be constructed in the location now proposed.

Your committee further suggests that it can be properly urged upon the said Army Board, that if, in their opinion, it is not now affirmatively proved that there is immediate necessity for said improvement, they should not report against the project in principle, until there is opportunity to ascertain whether or not the shipping and commerce incident to the normal increase of business and the opening of the Panama Canal, requires the harbor extension proposed.

It is estimated that it will probably take five years to complete the proposed extension, after it is undertaken.

If the Board of Engineers now turns the project down, in principle, all that has heretofore been accomplished will go for naught, and if it should turn out that the extension is, in fact, required, it will be necessary to begin all over again.

If, however, the Board could see its way clear to recommend the project in principle, leaving it to Congress to determine when the conditions required it to be put into operation, it would make material saving in time and work no damage to anyone.

The Board of Harbor Commissioners go upon record in support of the project with the following resolutions:

"Whereas, The District Engineer Officer, U. S. A., Honolulu, Hawaii, has made a survey of the Palama Basin, adjoining the present harbor of Honolulu, and has reported to the head office as of January 5th, 1914, recommending that the Reserve Channel connecting the present harbor of Honolulu with the said Palama Basin be dredged to a width of 400 feet; and

"Whereas, The Port of Honolulu will, when the Panama Canal is ready for commerce, be greatly in need of waterfront space for coal wharves and areas of land adjoining the wharves for coal storage; and

"Whereas, At the present time there is but one coal wharf in the port, and that the property of private parties, and which at the present time is inadequate for the coaling business of the port; and while no land is available on the north side of the harbor for coal wharves, or coal storage, and Sand Island, on the south side of the harbor, is not available for these purposes on account of the narrowness of the harbor of Honolulu at this point; and

"Whereas, The United States Government has 550 acres of land on the southerly side of the proposed 'Reserved' channel, all of which will be reclaimed by the dredged material from said channel, and as such unclaimed lands will not be required by the Federal Government for quarantine or other purposes, but would provide ample waterfront area for coal wharves and coal storage sufficient to accommodate the prospective business of the Port of Honolulu, and as this accommodation for American maritime commerce is a vital necessity for its Pacific Ocean business, and as this provision cannot be afforded American commerce elsewhere in Mid-Pacific trade routes; therefore, be it

"Resolved, by the Board of Harbor Commissioners of the Territory of Hawaii, That we respectfully but urgently request the Board of Engineers for Rivers and Harbors to approve the report of the District Engineer Officer, U. S. A., Honolulu, Hawaii, dated January 5th, 1914, recommending that said Reserved Palama Channel be opened for navigation."

The matter coming again before the Board of Engineers the merits of the project was ably supported by ex-Governor Frear. Upon due consideration a more favorable view of the subject now

prevails, and is referred back to Colonel Bromwell of the U. S. engineers' department here for further report upon its early necessity, suggesting that a much wider channel be dredged in place of the former recommendation, and in the enlargement the Sand Island side of the channel might be utilized commercially.

That early action will be urged by the Territorial officials, the chamber of commerce and other interests goes without saying, the importance of the project being emphasized to a degree little anticipated when the foregoing facts were set forth, through the detention of liners and interning at the neutral port of Honolulu of several refugee ships from various parts of the Pacific through the present European conflict.

HAWAII AND THE PANAMA CANAL

By DR. A. MARQUES.

BARRING unforeseen slides and temporary stoppages therefrom, the Panama Canal may be said to be now really open and available to the ships of the world. Yet, so far, on account of the general conditions produced by the European war, Honolulu has not been able to obtain the smallest idea of what the Canal and the navigation going through it will do for our harbors and our merchants. Two views have been expressed in the matter: the *optimistic*, which predicts an untold amount of new traffic, producing here a general boom; and the *pessimistic*, which foresees very little advantages, if any. But neither opinion has so far anything tangible to support it.

It may be well, therefore, to devote a few considerations of common sense to analyze what the future—after the war is over and commerce again takes its normal course—may really do for us. Evidently, for years to come—and whoever may be the final winner in the conflict—the European commerce and the navigation connected with it, will be crippled. But outside of this peculiar situation, we ought not to rely on dreams, but try to realize practically what the Panama Canal would have done, or may do for us, in ordinary times.

The point to investigate is simply this: how many ships, either eastward or westward-bound by means of the canal, will call at

Honolulu or at Hilo, and why? Naturally, all ships carrying passengers or freight, or both, for the Hawaiian Islands, will come here anyhow, but their number may not be much larger than what we already have; and, of all the others—viz: the great majority of those using Panama to or from the Oriental ports—how many will really care to stop here, and for what purposes?

Unless Honolulu, by a wise national policy, is made a free-port for the transshipment of merchandise from all parts of the world, transient ships will stop here simply to take in provisions, water and coal. What inducements does Honolulu offer on those lines? Honolulu, unfortunately, has already in foreign maritime circles the reputation of being the most expensive port of the world. So, if we want to attract foreign ships and encourage them to make us a call on their way through the Pacific, we must do all in our power to counteract or nullify this bad reputation, by offering the easiest terms possible. Here, however, it must be remembered that while some items can be modified, others cannot. We cannot change the cost of provisions and supplies imported from the Pacific Coast, which must be charged according to California rates plus the freight down here; but we can decrease the local charges, and our Harbor Board is, I think, fully awake to the matter, and, recognizing its importance, has already tried or is trying to reduce all such expenditures as connected with pilotage, towage, water and wharfage rates. This must be done thoroughly, because it is in our power to do so, and we must be prepared and willing to lose some revenue in order to collect more.

But there is one item of costs—and probably the most important and grievous—that, so far, our people seem to have been afraid to tackle, or even mention; and this is the cost of Custom entries, fees and duties. Agreeably to the benevolent American law, which enforces against us—2100 miles away from American coasts—the burdens and restrictions of intercoastal navigation, all foreign vessels, even in distress, must, in order to be allowed to take in needed supplies, even when not making any commercial operations—in order, say, to buy fresh meat or vegetables for the crew, or to take a supply of fresh water—must enter at the Custom House, and go through all the costly disbursements justly imposed on ships who come to load or unload merchandise. Now, this constitutes a considerable expenditure to add to the cost of

supplies, amounting to several hundred dollars, according to the tonnage of the ship. And here, let us ask any fair-minded reader this question: Can we expect foreign ships, on their way through the Pacific, to stop here and make such enormous disbursements for the mere purpose of a few provisions? Certainly not; and we can expect that most of them, after they have realized the conditions here, will take, at Panama or in Chinese and Japanese ports, where they are so much cheaper, sufficient provisions and supplies to carry them right through, carefully avoiding the expensive Honolulu harbor, unless constrained by stress of weather. There is the threatening danger.

In order to avoid this danger, thus caused principally by our Federal laws, the only way is to petition Congress to pass a measure allowing all foreign ships, touching at Honolulu merely to take in provisions and supplies for the crew or passengers, to enter exceptionally without having to pay the so-called "tonnage tax"; and this request ought to be favorably considered, all the more since a similar exception is already granted to foreign ships which come in to take only a necessary supply of coal. We might also argue that such a small favor might be ungrudgingly granted to a port like Honolulu, from which Uncle Sam already derives a yearly net revenue of over one million and a half, without counting a neat little sum of internal revenue. But this petition ought to be—must be—done at once, before the next meeting of Congress. Will our Chamber of Commerce see to it? and will our Delegate consider this proposition—which is the only one that can grant a boom for our merchants through the Panama possibilities—important enough to properly support it at Washington?

The following remarks of Captain Weeden of the steamer *Manoa*, at the Los Angeles Chamber of Commerce reception at San Pedro, welcoming its first arrival from these islands, touching on the commercial outlook, largely supports the above views:

"The possibilities of this commerce are great, if you will rise to the occasion. We are bringing this freight 2250 miles at a cost of \$3 per ton, which is undoubtedly a lower rate than would be possible for the same distance by rail. It behooves you, then, to take advantage of cheap water rates and do everything in your power to encourage ocean commerce to and from your port. You should make the lowest possible rates for water, for dockage.

pilotage and every other convenience which the traffic demands—all of these things make for more and better ships and shipping facilities."

CHARGES FOR A FOREIGN STEAMER OR SAILING VESSEL OF, SAY, 3000
TONS ENTERING HONOLULU HARBOR.

Customs Dues.....	Entry \$5.50, clearance \$2.70.....	\$ 8.30
	Tonnage tax, six cents per net ton.....	180.00
	Broker for making entry, etc.....	10.00
Pilotage	Each way, in and out, \$25.....	50.00
	(For sailing vessels the rate is two cents per gross ton. If the ship is towed in, it pays only half pilotage.)	
Harbor Master ...	Fee on arrival only.....	5.00
	Boat hire	7.00
Wharfage	Two cents per ton per day, for one day.....	60.00
	Each change of wharf, extra \$5, for harbor master, and \$2 per boat.	
Water	One-fifth of a cent per gal.; 5000 gals.....	10.00
Towage	\$75 up to 1400 tons, five cents per each ton additional, making for 3000 tons each way \$155...	310.00
		<hr/> \$640.00

If the ship stays outside the harbor, where provisions and water can be supplied through launches, the only fee to be paid would be the pilot or harbor master's.

A WORLD TOUR FOR HAWAII'S BENEFIT

TIME proves the value of all things, and will include much present effort that is accepted with matter-in-fact indifference. This is a truth that may, and doubtless does, encourage many in the labors they are called upon to perform. This idea came to mind on taking up the unpretentious volume issued last spring from the Bishop Museum press as its "Occasional Papers, Vol. V, No. 5," being the "Report of a journey around the world to study matters relating to Museums, by W. T. Brigham, Sc. D., 1912," for herein is recorded with graphic description the gifted author's experiences and impressions of a world-tour of the principal museums of all lands with the sole aim and purpose of furthering Honolulu's heritage, the Bernice Pauahi Bishop Museum, already famed as the richest in the world in Polynesian ethnology and natural history, an eminence largely due to Dr. Brigham's varied scientific qualifications, natural apti-

tude and experience as curator and director in building up this institution from its inception, in 1889.

The volume under review states this to have been the author's second journey for a like purpose, hence, the former experience redounded to materially benefit the new inquiry and inspection of the principal museum collections of the United States, England, Europe, East Indies, Australia and New Zealand. The journeyings to and through the different countries are interestingly and instructively written, and the many illustrations of eminent men engaged in museum work, as also external and internal views of many of the foremost of these institutions in all lands, and the Hawaiian treasures a number of them possess, furnishes the reader with an intelligent historic account of the various ethnological specimens that emanated from these shores in early days, the time and parties—in many instances—connected with their transfer and preservation.

It is interesting to note that the value of not a few collections are credited to individual effort, by men who made private collections with knowledge, doing work for ethnology that cannot always be done by the large museums, and when such collections come at last to the suitable museum they are regarded rightly as among the most useful acquisitions.

Space would not permit to follow, even briefly, the account given of rare enjoyment Dr. Brigham must have experienced in visiting the many treasure houses of past and present eras in so many parts of the world, and comparing notes with so many distinguished savants that have kept their institutions in the forefront on subjects of interest to Hawaii, for wherever possible arrangements were made for the enrichment of the Bishop Museum's collection by purchase, exchange, or photographic representation. Nor are the mutual advantages afforded by the conferences on comparative treasures in these different collections to be underestimated.

Among the benefits afforded by such a tour was the personal knowledge obtained of all the various Hawaiian articles extant, not only in quantity, but also as to quality and condition, with the added advantage it presented, in several instances, of correcting inaccuracies of name, and of origin in the detection of spurious objects. The comparison of these collections and provision for their care and study is a stimulating incentive to highest

aims in our local institution, and gratifying at the same time to know that only in the more recent museums, constructed from the exhibition standpoint rather than the architectural, with liberal expenditure and endowment, does the Bishop Museum suffer in comparison.

The Zwinger Dresden Museum is commended for the good collections of its ethnographic display, and the beautiful arrangement of the Hawaiian feather garments of which it has a choice, though not large, collection. The iron case in which these are kept is so well adapted for the purpose that it is hoped to duplicate it here for the better preservation of the Bishop Museum treasures in that line.

Commendation is noted also of the new Cologne Museum for the arrangement of its cases whereby it was well fitted to give instruction, not only by its exhibits, but by their arrangement and installation. The steel cases, as here used, now adopted in new museums, give full satisfaction.

The Oceanographic Museum at Monaco, as its name suggests, presented peculiar attractions to one who has devoted many years to the subject of the desirability of maintaining a department here for the exhibit and study of marine life in a collection as complete for the Pacific as Monaco has of European. The Bishop Museum even now owns a collection of no mean order, but "the field is a broad one," says Dr. Brigham, and this ideal "could be brought about with time and money."

The Museum fur Volkerkunde of Berlin, the natural depot for the collections of frequent government exploring expeditions possessed many Hawaiian treasures, second only to that of the British Museum. The very riches of this museum "had in a degree stifled the exhibit; the cases being packed too full to allow the contents to be studied." In the list of its Hawaiian articles credit is given as being "largely the collection of Dr. Edward Arning," acquired during his several years residence here.

In the account of the visit to the British Museum, termed "that greatest repository of the museum world," it was found to have secured "the fine collection of the London Missionary Society, which is especially rich in specimens from the Southern Pacific, and contains also not a few Hawaiian treasures." The kapa specimens of this museum are noted as "well mounted and arranged for study," a matter others have generally neglected,

while the large collection of Hawaiian feather cloaks and capes have been mostly withdrawn from exposure, for their better preservation. The exhibit of Hawaiian antiquities excel in variety that of all European collections put together, in which the numerous idols afford an interesting study. Other carvings embrace a number of figure-bearing bowls, canoe ornaments, drums, etc., single and double canoes, various implements and articles of utility and ornament, some of ancient form, indicative of fashions change even before the days of civilization.

Among other London attractions visited was the Horniman Museum, originating as a private collection "founded in 1890; rebuilt ten years later, and presented with the adjoining gardens to the city council as a free gift to the people, for ever." The admiral arrangement of the contents of this building is acknowledged as giving it a pleasing individuality. In the Oxford Museum was an interesting Hawaiian idol from the Hale o Keawe, Honaunau, through Rev. Andrew Bloxam, chaplain of the *Blonde* at the time of her visit, in 1826. To one of the doctor's acquaintance with the heads of many of the leading museums it comes as a surprise at his "confessing a greater pleasure in inspecting the collection of an experienced and competent gentleman where the history of each thing is fairly in hand than in the inspection of a large public museum."

The Copenhagen Museum was visited with interest through a former acquaintance, and its Hawaiian collections, far better than in most museums, dates from the visit to these islands of the *Galatea*, Captain Steen Bille, in 1846, with additions by his nephew, who was later a resident of Maui. Its feather garments were, unfortunately, showing the deteriorating affect of time and light. One crude image is its idol outfit.

Among the Hawaiian treasures of the St. Petersburg Museum were: one feather cloak, five feather capes, three feather helmets, one being of black feathers, the only one seen; one feather lei, two each wooden and stone figures, etc. The ethnological section of the Vienna Museum has one of the Kukailimoku feather gods, red with yellow trimmings, dog teeth and shell eyes, three feather helmets, feather model of a temple oracle, hat once covered with feather work, three feather capes, two being of the long and narrow form; with a fair variety of implements.

Munich also possesses a small collection of feather work and

three crude wooden images, one human figure showing uplifted arms, and a few implements.

The Hawaiian treasures listed in the American museums visited do not make as favorable a showing as would be naturally expected from the more frequent intercourse and opportunity by the closer commercial and other relations that have existed since American traders inaugurated their traffic with these shores.

The report closes with the presentation of a modified plan of some years ago, for the exploration of the Pacific islands, by the coöperation of the prominent museums of the world in making "a census of all specimens relating to Polynesia in their possession, with perhaps photographs of any rare or otherwise remarkable specimens." The Bishop Museum, it states; "could well undertake the work of bringing together all these, and also all that is known by the reports of early voyagers" as a help to ethnography. The work would aid in the study of the many problems affecting the past history of the islanders, and disclose, perchance, more of the relationship between the two great continents to the East and to the West. * * * We, here in the Pacific, will edit and publish the results. Our collections of Hawaiian material are larger than any other, and those from other parts of Polynesia are perhaps more representative than any other except certain collections in New Zealand. * * * Much has been collected towards such a purpose in the present journey, and the writer doubts not that museums would furnish for such purpose complete lists of their possessions from the Pacific region."

Apart from the descriptive visits to the principal museums, the main object of the journey, we confess to an absorbing interest in the account given of the experiences and impressions in various lands, more especially, perhaps, the journey through Singapore, where the Raffles Museum and Library and Botanical Garden were entertaining features, thence to Java with its wealth of tropical and picturesque attractions, so instructively presented, that impresses one with the idea that it will not take long to find the work classed "rare and out of print," in proof of its value.

The Census office makes an estimate of the population of Honolulu, April 15, 1914, as 57,399, an increase of 5216 since the enumeration of 1910.

INTRODUCTION OF BENEFICIAL INSECTS IN HAWAII

By O. H. SWEZEY,

Acting Entomologist, Hawaiian Sugar Planters' Association.

BUT a very few of the native insects of the Hawaiian Islands have become injurious to cultivated crops or plants. The insect pests here are in most cases foreign insects that have arrived through the channels of commerce. The promiscuous importation of fruits, seeds, trees, plants, etc., from all parts of the world has been the chief way by which the numerous insect pests have gained access to these islands. One has but to observe the profusion and variety of trees, shrubs, and plants in the public parks and private grounds of Honolulu to realize to what extent this has been carried on, for in all of this there is only an occasional native tree or plant to be seen.

The most of this introduction of trees and plants was done before the present rigid system of plant inspection and quarantine against insect pests was instituted, and the insects have come along freely with their host plants. There are about 75 species of scale insects (commonly called "blights") known here, none of which are native, but have been brought in in this way. The sugar cane leaf-hopper, too, so well known from its having caused such heavy loss to the sugar industry, is another example of a pest arriving with its host plant, coming in as it undoubtedly did in the egg stage in importations of cane cuttings for planting. This is also an example of an insect which is not known as a pest in its home country, by reason of its being held in check by numerous parasites and predaceous insects, but on arriving in a new country, in the absence of its enemies, becomes a bad pest.

Considering its size, Hawaii has accomplished more in the way of combatting insect pests by the introduction of their natural enemies than has any other country. The first introduction of beneficial insects in Hawaii was when, following his remarkable success in the introduction of an Australian lady-beetle (*Necius cardinalis*) into California to destroy the cottony cushion scale, Mr. Albert Koebele also introduced it here, where it soon re-

duced the same pest to such scarcity that it is no more a menace to the trees and plants previously affected.

This occurred as early as 1890, and shortly after, in 1893, Mr. Koebele was engaged by Hawaii to continue this work of finding and introducing beneficial insects. The first successful introductions were lady-beetles. About a dozen different species were successfully introduced by 1896, mostly from Australia and the Orient. Among these were *Cryptolaemus montrouzieri*, *Rhizobius ventralis* and *Rhizobius toorwoombae* to feed on various species of mealybugs; *Coelophora inequalis*, *Platyomus lividigaster*, *Scymnus loewii* and *Scymnus notescens*, to feed on plant lice; *Orcus chalybaceus* and *Chilocorus circumdatus*, to feed on scale insects. Many other lady-beetles were tried, but not all were successful. Some failed to become established, and others, although established, failed to increase sufficiently as to be of noticeable use. However, the combined work of all mentioned above has reduced greatly such pests as mealybugs, scale insects and plant lice.

Thirty or more species of hymenopterous parasites have been introduced also to prey on this class of insect pests. The lady-beetles are often seen busily feeding upon their respective hosts—scale bugs, plant lice or mealybugs—and the general public recognizes them as beneficial; but the parasites, often very minute, are seldom seen, and hence their usefulness is not generally known by people unfamiliar with their habits. Their presence may be determined by close examination and finding the tiny round holes which they have gnawed in the scale insects in emerging from them after having eaten the living bug or its eggs beneath the scale.

Occasional temporary local outbreaks of mealybugs and plant lice show what conditions would continuously prevail if it were not for these tiny parasites and the lady-beetles which keep them pretty well checked for the most of the time. Sometimes conditions may look very serious, but they would be many times worse if it were not for these numerous introduced parasites and lady-beetles. More of them would be a good thing, and the entomologists avail themselves of every opportunity of securing them.

In 1895, among other parasites that Mr. Koebele introduced from Japan were *Macrodyctium omiodivorum* and *Chalcis ob-*

scurata, which attack the caterpillars and pupae of the leaf-rollers on sugar cane and coconut palms. These two parasites do a great deal of good in killing off these leaf-rollers. *Chalcis obscurata* also attacks the pupae of several other leaf-rollers of fruit trees and garden plants.

Another phase in the introduction of beneficial insects was the introduction of the lantana insects by Mr. Koebele in 1902. He made a thorough study of the insects preying exclusively on lantana in Mexico, to ascertain which could be safely introduced here to serve to check this plant. Eight species of insects were selected for introduction and were finally established and spread all over the islands. Of these insects, the maggots of the little black seed-fly destroy the seeds in the growing berries; the larvae of two moths (*Platyptilia lantana* and *Crocidosema lantana*) feed in the flower clusters, thus helping to prevent the formation of fruit; the caterpillars of two butterflies (*Thecla echion* and *Thecla agra*) feed on the flowers; the larvae of a tiny moth (*Cremastobombycia lantanella*) mine the leaves, thus causing them to become ineffective in the service of the growing plant; a small bug (*Telconemia lantanac*) feeds abundantly on the underside of the leaves, causing them to die and fall off; a gall-fly (*Eutreta sparsa*) produces large swellings or galls on freshly-growing shoots, thus checking the normal growth.

The result of all these in checking the growth and spread of lantana is well known to those familiar with the conditions before and after. Another insect (*Orthezia insignis*), called locally the Maui "blight," has also been of important assistance in checking lantana. This was not one of the insects introduced by Mr. Koebele, but it was found to have already become established unassisted before the others were introduced, and Koebele gave a warning against its spread, as it was known to attack cultivated crops in some parts of the world. Here, however, the *Orthezia* has not seriously infested any cultivated plants except a few ornamentals, and has been very beneficial in helping to kill off lantana.

In more recent years there has been some misapprehension on the part of some that the "lantana fly" has changed its habits and become the Mediterranean fruit-fly, thus changing from a beneficial insect to a pest. This is not the case, however, as insects

do not change in that way. None of the eight species of insects mentioned above, introduced by Koebele, have ever become injurious to any cultivated fruit or plant; but they all keep on attacking lantana each in its own accustomed way, and there is not the least likelihood that any of them will ever become pests.

The most noted case of introduction of beneficial insects in Hawaii occurred in 1904-05, when Messrs. Koebele and Perkins introduced from Australia and Fiji the egg-parasites for the sugar cane leaf-hopper. These were *Paranagrus optabilis*, *Anagrus frequens* and *Oötetrastichus beatus*. These parasites soon became established and spread throughout all the sugar plantations, with the well-known result of checking the leaf-hopper pest and saving many millions of dollars to the sugar industry. This project has, on account of this, attracted more notice than any other project in the introduction of beneficial insects here.

Since that time the entomologists of the various institutions here have carried on many projects in the introduction of beneficial insects, some with success, others not successful. Many attempts have been made to establish parasites for the hornfly on cattle, but so far with no noticeable reduction of the pest.

After a long search for the home of the cane borer and possible parasites, Mr. Muir of the Experiment Station of the Hawaiian Sugar Planters' Association discovered and finally introduced from New Guinea, in 1910, a Tachinid fly (*Ceromasia sphenophori*) to prey on the sugar cane borer. This parasite quickly became established and generally spread, and has been remarkably successful in checking that pest.

In 1910 also, Mr. Fullaway of the Federal Agricultural Experiment Station introduced an egg-parasite (*Uscana semifumipennis*) for the large bean weevil which was becoming so destructive to algaroba beans. This has proved of great value.

In 1913, Dr. Silvestri, for the Territorial Board of Agriculture, brought several species of parasites from West Africa, where he had found them parasitic on fruit-flies. Some of these parasites were reared by many thousands at the insectary of the Board of Agriculture and distributed to all districts of the Islands where the Mediterranean fruit-fly is known. One of

these parasites (*Opius humilis*) is already known to have become established in several places.

In this short paper only the more important of the introduced beneficial insects have been mentioned. There have been many others of less importance, either by reason of their attacking less important insect pests, or that they failed to increase in sufficient numbers to be of significant value. There have been many tried which for climatic or other reasons entirely failed to become established.

The entomologists, encouraged by those which have been successful, are continuing in this method of combatting insect pests, and from one or the other of the institutions here projects for the introduction of more beneficial insects are continually being carried on. At the present time Mr. Muir of the Experiment Station, H. S. P. A., is attempting the introduction of parasites from Japan for the grubs of the *Anomala* beetle, which are very injurious to sugar cane by eating off the roots. Messrs. Fullaway and Bridwell are making further attempts at introducing certain fruit-fly parasites from Africa, discovered by Dr. Silvestri on his first trip, but which failed to survive the voyage to Honolulu.

There seems to be an idea prevalent in the minds of many that the insect parasites introduced by the entomologists always turn into pests later on. We are often asked in regard to a new parasite that has been introduced, "Well, what crop, or fruit, will this parasite attack when it gets the pest exterminated?" This by apparently intelligent persons, too. If there had at any time been an instance of one of the insect parasites introduced by the entomologists having become a pest and injurious to some crop, there might be some grounds for questions of that kind. But none of these parasites have ever become pests, and it is impossible to understand how the notion has become prevalent with so many people.

Parasitic insects do not change habits that way. Once a parasite, always a parasite. Another thing that is not generally understood about insect parasites is the fact that they never exterminate the pest which they parasitize. They only destroy some of them—sometimes only a small percentage, and sometimes nearly to extermination but not quite. The reason for this is

apparent. If a parasite should entirely exterminate its host, it would itself become exterminated, not having any more of the food specially required for its existence. In a state of nature there is a balance between insects and their parasites by which neither becomes over-abundant. This and the presence of other natural enemies (i. e., birds, etc.) accounts for insects not being pests in undisturbed natural conditions. In the various operations of man, especially in agriculture, natural conditions are disturbed and the "balance of nature" is upset; and many insects have become pests by reason of the unnatural conditions being more favorable to them than to their natural enemies.

The insect pests in Hawaii, except a few which are native, have come here through the channels of commerce, as was stated in the beginning, and are not introduced parasites that have changed their habits and become pests. There is not the least occasion for anticipating that any parasite introduced may later on become a pest. Those who have had any such idea should at once relieve their minds on that point.

WRECKS TO THE NORTH-WEST

By REV. J. M. LYDGATE.

THE islands and reefs to the northwest of Hawaii have been a veritable graveyard of marine disaster. The two sufficient reasons for this have been, first, the low, inconspicuous character of the islands, and, second, the faulty or insufficient location of them on the marine charts.

The menace of an iceberg is the fact that it lies seven-eighths under water, and you strike some submerged, protruding spur of it before you dream of danger. In a much more disastrous way the same thing is true of many of these islands.

In some cases, to be sure, there is a high island, easily visible from afar, but even in these cases there is usually a guarding wall of reef, outlying, which the unfortunate mariner strikes, while he is still far away from any apparent danger.

In other cases there is no such central high island, but only a low-lying strand of coral rock and sand, barely emerging above

the sea, or a line of sunken reefs on which the ocean breaks in patches, here and there, or, it may be, only in heavy weather.

The mariner, unless he is very wary, especially at night, fetches up on one of these outlying or sunken reefs before he realizes that he is in a position of danger at all.

The Pacific Ocean is a maze of reefs and islands, whose careful and authoritative location is a vast and expensive undertaking, involving many years of exploration and survey. Commerce couldn't wait for such a survey. In default, however, of such survey, it has been the custom of mariners to report such perils to navigation as they might find, and these locations have held until they were superseded by information, more recent or more authoritative.

The most ubiquitous navigators of the Pacific, during the last century, were the American whalers, and very many of these small islands and reefs were reported by them, oftentimes more or less incorrectly. These old whalers were rough and ready navigators, without the skill or the appliances for exact work in navigation. Furthermore, they had oftentimes been a long while at sea, and didn't know very accurately where they were themselves, and weren't in a position to report very accurately any "finds" they might make.

Position at sea is made up of the two elements, latitude and longitude. Latitude is determined directly from the sun, and depends only on the care and skill of the observation. But longitude is a little more complicated. The local time must be ascertained by observation of the sun, and that time compared with Greenwich time, carried by a good watch or chronometer from the beginning of the voyage. Now, this chronometer time may have been carried for months, without opportunity for careful correction, and it may easily happen that this "canned" time is several minutes out. Now, when we remember that one minute of time may mean 15 or 16 miles of distance, we realize how easy it was for these old whalers to be out in their reckoning.

Furthermore, it may not always have been convenient to make an actual observation, at the time of noting such an island or reef, so it was necessary to *deduce* the location by estimating, or guessing, how far they were from the last authoritative observation.

Being nomads of the sea, with no fixed course, and no immediate purpose of arrival, they were content to drift wherever the currents might carry them, and were comparatively indifferent as to where they were, so long as they found whales. This happy-go-lucky frame of mind finds abundant expression in faulty locations.

These whaleship reports, however, imperfect though they were, were, of course, infinitely better than none at all, and accordingly the perils they reported went down on the charts in their appropriate places.

A later navigator, sailing these same seas, and accepting the chart location as authoritative, struck the same reef 15 or 20 miles away, and he in his turn reported it with his latitude and longitude; and perhaps neither of them was correct. Later, perhaps, a survey vessel, properly equipped, made a careful voyage of discovery and confirmed or discredited these locations. So we have to this day, on the best charts of the Pacific, many reefs and islands marked E. D., (existence doubtful) or P. D. (position doubtful).

With this somewhat elaborate introduction, let us now turn to the detailed examination of the various wrecks so far as I have been able to find them.

NIHOA OR BIRD ISLAND.

Discovered by Capt. Douglas of the *Ipheginia* in 1789. This is a high island, 380 ft., very bold in outline, with no outlying reef, and within easy reach of Kauai, so that its exact location was an easy matter. For these reasons, it has not been a menace to navigation and has no wrecks to its credit.

NECKAR ISLAND.

Discovered by La Perouse in 1786. A high island, 280 ft., with no reefs and no wrecks.

FRENCH FRIGATE SHOALS.

Discovered by La Perouse, the French navigator, in 1786, and named by him from his two frigates. The islands consist of a central rock 120 ft. high, surrounded by sixteen small sandy islands, and many reefs and shoals, constituting a most serious menace to navigation, the more so as the central rock presents the illusion of a full-rigged ship, serving as a decoy to the unhappy mariner.

The American whaler *South Seaman* was lost here March 13, 1859. Realizing that their only hope of escape lay in the attempt to reach some inhabited land, they dispatched a boat to Guam, which, though more distant than Honolulu, lay in the track of the "trade winds." Before they had proceeded any distance, however, they fell in with the Hawaiian whaling bark *Kamcha-meha V*, which picked them up and, proceeding to the shoals, took half the marooned men aboard, conveyed them to Honolulu and then returned for the balance.

April 14, 1867, the *Daniel Wood*, whaler, struck the Bessie Francaise, another of the same group of reefs. It was a beautiful, clear night, with a fine full moon. The captain was below and, hearing a sharp, ringing order to "bout ship," sprang on deck; but it was too late—she was already over one reef and onto another. They cut away the masts, got the boats out and lay by till morning, when they saw at some distance the lone rock and its sandy fringe of beach. They got all possible supplies off the wreck, and stored them on shore, and immediately determined on an expedition to Honolulu. Selecting their best boat, they proceeded to build up and deck her over, and otherwise equip her for the trip. But they were badly handicapped by lack of tools, all they had being a hammer, a saw, and an old chisel. Even nails were denied them, and they must painfully and laboriously extract every nail they used from some portion of the wreck, whence also they must secure every bit of board they used.

On the completion of the boat, the captain and seven of the crew set out for Honolulu, leaving 27 men behind. This boat's crew were put on short rations of one pint of water and one sea biscuit a day. In due time they reached Niihau, where they were hospitably received and given the best that the island afforded. They remained here 24 hours and then pushed on for Honolulu, which they reached two days later. Fortunately, the *Lackawanna* was there, and she immediately assumed the rescue of the unfortunates, proceeding to French Frigate forthwith, for that purpose.

The *Daniel Wood* left some pigs on the island, which suited themselves to the conditions, and developed aquatic instincts, so that they could swim from island to island in pursuit of fish and

other sea food. They were found here in a thriving condition by the Hawaiian brig *Kamehameha V* in 1872.

The American whaler *Rebecca* was the next victim of these treacherous reefs. Cruising near by she saw at midnight the deceptive full-rigged ship rock, and attempting to come to close quarters, struck the outlying reefs. Fortunately she carried over it into smooth water, so that she was saved from immediate destruction. Farther information as to the fate and fortunes of the crew are lacking.

A sailing schooner (name not recalled) also struck one of these reefs several years ago and came to grief. She was running one night before a fresh breeze with so much headway that she went clear over the reef into the still water beyond where she immediately sunk. The disaster was so sudden that little or nothing was saved except three dories which were on deck and were easily rescued in the confusion. In these little unseaworthy boats, with almost no provisions, they made the trip to these Islands. Fortunately they had smooth weather all the way otherwise a disastrous outcome must have been inevitable. Reaching Niihau, one of the boats fell in with some fishermen clad in such primitive costume that the mariners mistook them for dangerous savages, and, pulling out, sought a distant and secluded section of the island where they remained several days before they were found.

The French bark *Conetabte de Richmont*, from Hongkong for Taetel, ran ashore on French Frigate shoals, October 10, 1903, and had to be abandoned, the officers and crew dividing into three boats under charge, respectively, of the captain, chief officer and boatswain, and headed for these islands. The captain's boat reached Niihau on the 18th, and the party was conveyed to Wai-mea, Kauai, thence to this port. Steamers were sent out in search of the missing boats, but failed to fall in with them. The mate's boat landed at Kailua, Hawaii, on the 22nd—ten days out—while the third boat's crew also reached Niihau, after much hardship through stress of weather and condition of the boat, on the 24th, and was brought hither by the *Mikahala*. The steamer *Kauai* was sent to the scene of disaster and found the ship cap-sized and entirely submerged save a portion of the bow.

GARDINER ISLAND.

Discovered by Capt. Allen of the American whaler *Maro* in 1820. Shoals and reefs 35 miles in circumference, with no emerging island. Very dangerous, but no wrecks reported.

DOWSETT'S ROCK.

A little to the south of Maro Reef. Discovered by the *Kamehameha V*, which struck one of the reefs and narrowly escaped serious disaster. Named from Dowsett, owner of the *Kamehameha V*.

It was probably on this rock that the *Two Brothers* was lost fifty years before.

Bark *McNear*, en route from this port to Laysan Island, was lost on Dowsett's Reef on the night of May 14, 1900, striking the reef so hard there was no hope of saving her, as she immediately began to fill. Officers, crew and laborers, thirty-three in all, set out on the 15th in three open boats for Laysan, sixty miles distant, which they fortunately reached in safety after 36 hours.

LAYSAN ISLAND.

Discovered by Stanikovitch, the Russian navigator, in 1827, and named after his vessel. Brook, visiting the island in 1859, found the remains of a wreck there, but I have no information in regard to it.

March 3, 1905, the Hawaiian schooner *C. C. Kennedy* went ashore by stress of weather on this island, the vessel and boats becoming total wrecks, from which but a small portion of stores and no personal effects were saved. The crew were fortunately rescued by the U. S. gunboat *Petrel*, March 23rd, and brought to Honolulu.

LISIANSKY ISLAND.

Discovered by Capt. Lisiansky of the Russian ship *Neva*, which struck the island October 15, 1805, and narrowly escaped complete disaster.

This has been a very disastrous island, for the two reasons I have emphasized. It is a low island, with a large extent of outlying reef; it had been so variously and incorrectly reported that, as late as 1859, Capt. Paty found the island one degree, or some 50 or 60 miles, out of place on the charts.

In 1844 the *Holder Borden*, Capt. Pell, was wrecked on this

"unknown island," which was then named Pell's Island. The *Borden* was an American whaler of 442 tons. They immediately set about building a small schooner, which they called the *Hope*, in which to make the voyage to Honolulu. Handicapped as they were for want of tools, this work took four months; but so well built was she, that they sold her afterwards in Honolulu for \$1400. In this schooner twenty-five of the crew made the trip to Honolulu, taking 23 days for the voyage, and the brig *Delaware* rescued the remaining eleven men a few weeks later. The *Borden* was pretty well loaded with oil, most of which was stored on the island, and was rescued by the *Delaware*, though a considerable portion of it leaked out and was lost.

The American whaler *Konohasset* was wrecked on the same island May 24, 1846. With surprising alacrity they set to work, and completed a sloop in eighteen days, in which the captain, the mate and five of the crew made the trip to Honolulu in forty-two days. The balance of the crew were rescued August 4 of the same year.

Probably about the middle of May, 1872, the German brig *Wanderer* was lost on this same island. The *Kamehameha V*, arriving there July 24, 1872, found the wreck, waterlogged and deserted. The log was finally found, from which it appeared that she was bound from San Francisco to Tartary. The last entry in the log was May 9, presumably just before she struck. There were indications that a boat had been outfitted for sea; at any rate, no one was left.

This island has a somewhat confused identity, variously answering to Lisiansky, Lassion, Pell's and several other names.

PEARL AND HERMES REEFS.

Discovered by two British whalers, the *Pearl* and the *Hermes*, lost the same night, ten miles apart, April 26, 1822. Fortunately, the disaster was followed by several days of quiet weather, so that they were able to save most of their stores, otherwise they would soon have perished, as the reefs gave promise of very little in the way of subsistence. Mr. James Robinson of the *Hermes*—later of the well-known firm of James Robinson & Co., Honolulu—immediately set about the building of a schooner from the material of the wrecks. During the

building of this relief schooner, an English whaler made the reefs, and took away all but twelve of the crews, who elected to stay by Robinson and take their chances with him. The Robinson party were ten weeks in reaching Honolulu, and were reduced to the last stages of starvation.

Pearl and Hermes consist of twelve low islands surrounded by a tangle of reefs 50 miles in circumference.

MIDWAY, OR BROOKS ISLAND.

Discovered by Brooks in the *Gambia*, July 5, 1859, and called by him Middle-Brooks Islands. He took possession of them in the name of the United States, and left a Kamchatkan in charge of them. He kept the knowledge of them to himself, and afterwards disposed of his information to the Pacific Mail Co., who for years contemplated making it a midway depot for coal and supplies, Honolulu being at that time, it was thought, too much under foreign influence.

November 16, 1886, the little fishing schooner *General Siegel*, lying at anchor in the lagoon, dragged her anchors in a gale and went to pieces on the reef. The crew of eight men were all ashore at the time. Casting about the island for some means of escape, they found a small boat which had drifted across from the wreck of the *Dunnotter Castle* on Ocean Island; also the remains of an old Japanese sampan left on the island by some fishermen. The captain, the mate, named Jorgenson, and a sailor named Brown, took the small boat and went over to the other island across the lagoon. The captain and Brown never came back, and ultimately the story told by Jorgenson was so improbable and so suspicious that it led to the presumption that he had killed them; whether in cold blood, in an altercation, or in the aberration of insanity, there is probably no means of determining. It was perhaps quite natural, under the circumstances, that the little band of three or four remaining should fear and shun him, and that they should exclude him from their reconstructed sampan, when they set out to find some inhabited island to the leeward. I question whether there is a more daring or adventurous undertaking in all seafaring annals than this of four emaciated men setting out, in a cranky, unseaworthy sampan, with nothing but dry fish and water, and with no nautical instru-

ments and no knowledge of navigation, to find a pin-head island they had heard of 1500 miles away, on the great waste of seas. And they found it!—after a twenty days' voyage.

The "murderer," Jorgenson, remained behind, presumably marooned for life. But strange things happen in these lone seas. Early in the following year the *Wandering Minstrel*, a fishing vessel of 467 tons, arrived on the scene to break his Crusoe solitude. Snugly ensconsed within the lagoon, things went well with the *Wandering Minstrel* until the winter storms set in, when the great combers swept in over the reef, flailing the vessel to and fro, straining and tugging at her anchors, until she finally dragged them, and fell foul of one of the coral patches with which Welles Harbor is beset, and, pounding there continually, she soon went to pieces.

Betaking themselves to the shore, they found a rough shelter hut left by the Welles Harbor contractors, which, however, was scant quarters for 29 people, including the captain's wife and family.

Before long, the mate, one Cameron, recognizing a kindred spirit in Jorgenson, the "murderer," together with a Chinese boy, took one of the boats and, having fitted it up as best they could, set sail for Jaluit, which they reached in due time, but failed, so it is said, to report their late companions in distress. Some months later six of the crew took "French leave," with the best of the remaining boats, and were never again heard from.

The trying conditions of starvation and exposure proved too much for some of the crew, and five of them succumbed entirely, while all were reduced to the verge of collapse. Only after fourteen months of this grim imprisonment did they escape, on the fishing schooner *Norma*, which, quite by chance, touched at the island and took them off, landing them April 6, 1888, at Honolulu.

Schooner *Julia E. Whalen*, with supplies from this port for the Midway Island cable station, went ashore there October 22nd, 1903, in attempting to make the anchorage before daylight. Heavy weather setting in, she soon became a total wreck, without opportunity of saving any portion of her cargo.

British bark *Carrollton*, from Newcastle with coal for this port, was lost on Midway Island, December 28, 1906. Her crew was rescued by the cable ship *Restorer*, which was fortunately taking

on supplies here at the time for the station for delivery en route to Vancouver, to which port they were taken. No details of the mishap were received here.

September 16, 1906, the Pacific Mail S. S. *Mongolia* grounded on the western reef off Midway Island. Part of her cargo was jettisoned and the passengers all landed. Word reaching Honolulu, the *Buford*, *Iroquois* and *Restorer* were dispatched to her aid, but before their arrival she was worked off the reef on the 21st, and two days later left for this port, convoyed by the *Buford*, arriving on the 28th and continuing on two days later to San Francisco.

OCEAN OR KURE ISLAND.

An early American discovery, confirmed by Stanikowitch in 1827. A small island in the neck of a pear-shaped atoll, some thirty miles in circumference.

The English ship *Gledstanes* was lost on Ocean Island at midnight of June 9, 1837. All hands got off safely, save one man who jumped overboard in a state of intoxication. "Capt. Brown remained on the island over five months, when, with his chief mate and eight seamen, he embarked for these islands, in a schooner which had been constructed from the fragments of the wreck. The other officers and men, who remained on the island several months longer, endured great suffering and were finally brought off in a vessel sent for them by H. B. M. Consul."

Five years later, September 24, 1842, the American whaleship *Parker* struck on the Ocean Island reef, and within an hour was a complete wreck. With great difficulty and many vicissitudes they finally reached shore, almost wholly destitute of water, provisions and clothing. They remained on the island, leading a very miserable existence, until May 2 of the following year, when they were rescued by the *Nassau* and brought by her to Honolulu. Capt. Tom King and Molteno were among the victims of this disaster.

The ambitious attempt to create a coaling station at Midway having failed, the U. S. man-of-war *Saginaro*, Capt. Sicard, was detailed to bring away the contractor and his supplies. Proceeding from San Francisco, by way of Honolulu, to Midway, she embarked the party and their stores, without incident, and set

sail from Midway, October 28, 1870. But before leaving these waters for good, Captain Sicard thought it was his duty to run over to Ocean Island, 50 or 60 miles away, to determine more exactly the location of the same, as it was still somewhat uncertain. He gave orders to proceed under such easy sail, during the night, as would bring them within sight of the island at daylight. Suddenly at 3 o'clock in the morning they fetched up on a reef, which morning showed them to be the outlying reef of Ocean Island. With a good deal of difficulty they saved a large part of their stores, their boats, sails, and a donkey-boiler, which was of great value to them as a condenser for the distillation of fresh water.

It soon became evident that their only likely hope of rescue lay in sending a boat to Honolulu, as the many others before them had done. Taking the best of their boats, they built it up and decked it over, and otherwise fitted it up for the long voyage. On the completion of this work, which took about three weeks, a volunteer crew of five men set sail for these islands. They had a very boisterous voyage, extending over 30 days, and ending disastrously at Kalihi-kai, on Kauai, where the boat was caught in the breakers, turned over and over and four out of the five men killed. The sole survivor, Halford, made his way to Honolulu, and from there the *Kona Packet* was immediately despatched to rescue the unfortunate victims on Ocean Island. Shortly after, more mature consideration prompted the Hawaiian government to dispatch the steamer *Kilauea*, which reached the island slightly in advance of the *Kona Packet*, and brought all hands safely to Honolulu.

July 15, 1886, the *Dunnottar Castle*, a fine large steel ship, coming up from the south with coal, and bound for San Francisco, ran full tilt into the southwest curve of the reef, and plowed her way so deep into the soft coral that she stood up on an even keel, apparently with everything intact. She, too, fitted out a boat for the Hawaiian Islands, which reached Kauai after 52 days, landing at Kalalau with the crew in a very much exhausted condition. The *Waialeale*, then just arrived, was dispatched to Ocean Island to rescue the unfortunates. Before she arrived, however, apparently the *Birnam Wood*, bound from Hongkong to Valparaiso,

had already taken the men off, after they had been on the island 33 days.

On the return of the *Waialeale*, reporting the intact condition of the vessel, a wrecking party was organized with intent to return and get the vessel off. On arrival at Ocean Island, however, there was no vestige of her. She had floated off or gone utterly to pieces, so that there was nothing left to tell the tale.

MID-OCEAN DISASTERS.

August 10, 1899, the ill-fated S. S. *City of Columbia*, bound from Honolulu to Hongkong, was abandoned about seventy miles from Kauai.

May 29, 1902, the British bark *Fannie B. Kerr*, laden with coal, was abandoned on fire about 800 miles northwest of Kauai. In the very early morning, and somewhat precipitately, the crew took to the boats. They were seventeen days in reaching these Islands, one of the boats making Niihau and the other two respectively Waimea and Mana. They suffered a good deal from exposure and privation, being reduced finally to two canned peaches and one sea biscuit apiece daily.

American bark *Ceylon*, from Laysan Island with guano for Honolulu, met heavy weather which caused her to leak so freely that she was abandoned ten days out and sank July 3rd, 1902. The officers and crew, in two boats, were four days in returning to Laysan, which they fortunately reached in safety.

VISIT OF NOTED SCIENTIST. Honolulu was favored by accident, recently, in the visit of Felix von Luschan, of the University of Berlin, en route to Europe from the Colonies. During a brief months' stay his time was devoted to furthering his anthropological investigations (on which subject he is the foremost scientist), in the study and measurement of Hawaiian skulls with the view of determining the origin of the race. In connection with opportunities afforded him through the Bishop Museum, some 150 skulls were measured, less than a third of the required number for the study in hand, yet with the aid of those in the Berlin collection a report will be made which has the promise of publication by our local institution.

STORY OF KING OLA

By A. F. KNUDSEN.

OF ALL the Hawaiian traditions, the history of King Ola is respected, or rather beloved of all the people of Kauai more than any other. He was the great, good king, the great civilizer, the great engineer, the road-builder of history. His birth and preparation for the throne however is the subject of my story; a common enough theme, a common enough plot, with, however, its little Hawaiian variations.

The father of King Ola lived a harassed life. The priesthood was degraded, the high priest a keen, intellectual power-loving man, of no spiritual insight, and the king felt that the Tabu was in danger. But in the second generation were growing up a number of splendid young men. The young priests were noble, law-abiding men—the young chiefs, keen warriors, austere, and able to keep up the ancient tradition that the king was the father of all his kingdom. And so, at the great conclave of the priests and chiefs of the fifth degree of initiation, the successor to the throne was chosen,—only to die, shortly afterward, a sudden and mysterious death. Again they chose from among the young chiefs a splendid youth, to be understudy to the king and know how to rule in the kingly seat, and he was openly assassinated outside the temple gate when marching from one of the holiest ceremonies.

The king saw that things were against him, that the priestly party were using means that his party could not stoop to use, because the man who struck an officer with his insignia broke the Tabu. And here was his successor ruthlessly murdered, and the perpetrator of the deed undiscovered. It was a crafty conspiracy, and required a crafty counter-thrust. In those days, of course, as in the days of Solomon, a king had many wives, and in the king's retinue was a princess of high rank, short of stature but exceedingly beautiful. The king threw her out of the house, banished her to her father's keeping, robbed her of her outer insignia of a princess, and restricted her to the confines of Koula valley, where her father, a chief high in council, now did nothing more than oversee the collectors of sacred feathers plucked from

birds caught in the woods. The chief priest rejoiced. He thought he had succeeded in getting one of the king's ablest counsellors on his side. But the old chief did his work true to the Tabu, taking the orders of his king as the orders of divinity, and the princess raised her boy as a common soldier, and he grew to be eighteen years of age without knowing that his mother's rank made him eligible to the throne. And then when the bright ohia's blossoms came out and reddened the forest in the deep, dark valleys, with a promise of their rich red apples in the fall, the banished princess opened a wooden calabash that had been mysteriously left with her the day of her banishment, and therein she found the cloak, the apron, the helmet, the dagger and the sacred breast ornament of a prince of the blood, and this she hung upon her son's neck, calling him Ola, Life, and telling him to present himself at the door of the inner temple, where that day all the young warriors were to present themselves for initiation, to take the vow of preserving the Tabu with their life's blood. The old king stood in the East, barely suppressing his emotion and expectation. His old arch enemy, gray-haired but erect, stood in the West, and in marched Ola with his regalia. He wore the sacred emblems, but the instant the high priest saw him he knew that his game was at an end. He did not recognize the youth, but of course he recognized the regalia, and divined the trick of the king. Forgetting himself, he hurled a javelin of office, the sacred spear, emblem of the creative power, at the youth, but Ola, trained as a warrior, struck it aside with his mace, and took his position. It was early in the morning, only a few warriors were present, but they, by good foresight, were absolutely loyal to the king. The high priest was alone. The king arose in his seat. He said the Tabu had been broken. Life had been stricken with the emblem of creation. The only salvation was that one died in defense of the Tabu, and the guards advanced with a menacing look, and the old priest saw that whether there was truth in their belief or not, there was nothing left for him to do but to die in the defense of the Tabu. And he walked to the altar and he leaned back across the great flat stone, and he cried: "I die in attempting the death of one who desecrated the temple," and he plunged his own dagger into his own breast, the only honorable death that an officer of the Tabu could die after he had desecrated his office. Instantly his under-

study took his place, a man absolutely loyal to the king and to the Tabu. Ola was initiated and then, with the young initiates in the ranks, there being two offices to fill, the election was held. Ola was elected heir apparent to the king and one other understudy to the high priest, to learn his office, ere he should take up the reigns of government. Soon after that the old king died in peace, and King Ola began at twenty-four years of age to reign for fifty-six years, a reign that has gone down in Hawaiian history as the reign of peace, of fine arts, and of great public works, for the benefit of the masses.

The last work of the old king, his father, was to enlarge and improve the temple, and make the hill above it a fortress, and consecrate the whole with a new name "Hauola"—"The stricken ola." The heiau is at Waiawa.

UMI'S NECKLACE WAR

An incident early in the reign of Umi-a-Liloa.

[Translated from Ke Au Okoa.]

UPON a certain time shortly after the overthrow of Hakau, at Waipio, Umi-a-Liloa set forth for Hilo on a tour of observation without meeting with the chiefs of that district. Nor were they acquainted with him, personally; they had simply heard that he had succeeded to Hakau's throne, therefore Umi journeyed on through Hilo with a few chosen companions unrecognized. Kulukulua was the king of Hilo at that time.

Umi and his party traveled through the district observingly till they reached the town where they stayed, putting up at the houses of its chiefs. And it was remarked that these strangers were fine in form and flesh, therefore was Iiwalani, the daughter of the king of Hilo, enamored of Umi and espoused him.

During Umi's stay with the daughter of Kulukulua, she had a royal necklace, a wiliwili palaoa lei, formed of cords of dark hair fastened securely. Umi noticed it one festal night of all the chiefs of Hilo at Kanuku-o-kamanu, Waiakea, whereat the hula, papuhene, kilu, loku and other games were the entertainments. The daughter of Kulukulua was splendidly dressed with bird feathers on her body and on her head, and on her neck she wore the wiliwili palaoa necklace. At the close of the royal

festivities Umi asked the princess for the necklace she was wearing and she handed it to him. Umi then asked, "Is this your necklace of royalty?" She replied, "Yes, that is our royal necklace; it is not distributed among the people."

"It is common among the children at our place, and from children to old women," said Umi. "The royal necklace of our chiefs has an ivory tooth, a tooth from the (sperm) whale; that is the royal necklace, corded tightly with braids of human hair." With that Umi broke to pieces the wiliwili palaoa necklace of the daughter of Kulukulua.

When Umi had broken the wiliwili tongue of the necklace and Iwalani saw that it was destroyed she cried with feelings of deep regret, and ran with haste to her father with the story of its destruction by her husband. The father asked: "For what reason has your necklace been thus destroyed?" The daughter replied: "The man said because he was ashamed of it, for the palaoa wiliwili was common among his people from the children to old women, and the royal necklace of his company of chiefs is of the tooth of the whale, the ivory tooth."

Said Kulukulua to the daughter: "We will seize and tie up those men with a rope, and if a royal necklace with ivory tongue is not produced, then all will be slain and the kapu restrictions of the Kanoa temple shall be released by them (in sacrifice)." Therefore, Kulukulua ordered his soldiers to seize and fasten Umi and two of his companions, Omaokamau and Koi. But Piimaiwaa was assigned to go to Waipio for the ivory tongued necklace, because it was stipulated that the necklace was to be produced in one day, failing which they would all be killed. Piimaiwaa therefore hastened to Waipio, reaching the valley in short time, and informed the chiefs of the difficulties that beset Umi and his companions, and he rested not that day till he placed the royal necklace in the hand of the daughter of Kulukulua, which was a matter of joy and satisfaction to her at beholding this new thing; the making of a whale's tooth into a royal ivory clasp necklace, so that she jumped and laughed at her good fortune.

Umi, however, was heavy hearted at the loss of the royal necklace bequeathed to him by his father, King Liloa, but he prayed unto his god Kukailimoku to safeguard the royal necklace "Nani-

koki" against the Hilo chiefs until the time they would be taken into captivity.

Upon the delivery of the ivory necklace Umi and his companions were released from their place of confinement, the house of his father-in-law at Hilo, whereupon they immediately returned to Hamakua. Reaching Waipio Umi met together with his chiefs and tried councillors (poe kaakaua* kahiko) of his father, and it was resolved to war against the chiefs of Hilo in the following manner. War was to be entered upon immediately without any delay and march by way of the forest on Mauna Kea till just above Kaumana, then descend upon the town of Hilo. There was a short cut through the forest by way of the Poliahu road and the spring on Mauna Kea, thence downward to the shore. That was the ancient road for those of Hamakua, Kohala, and Waimea, to reach Hilo. Accordingly preparations were made for the body of warriors to ascend the mountain and emerge right above Hilo and encamp on the upper side of the Waianuenue stream without the knowledge of Hilonians that war was upon them. And the chiefs of Hilo were unprepared.

It happened that a fisherman of Puueo, named Nau, was out along the shore trailing for heenuhu (small fish for bait) and he noticed the discoloring of the water in the ocean, and was startled in mind and thought immediately of war upon the mountain causing the muddy water. Certain others to whom he expressed his fears denied this; there was no war; they attributed it to a fine, cloudless, but fierce rain upland which had riled the stream and discolored the sea. But this man disagreed with their views and was firm in the belief that the muddy water was from the feet of a body of men. He therefore gathered his fishing apparatus into the canoe and returned to the shore. Without spreading his net to dry he seized a war spear and shouldering part of his catch, and implements, he set forth mountainward. When Nau reached the upper part of Kaumana where was grass, just above which place was encamped the enemy, he sat himself down on a broad flat stone in the stream and eat and refreshed himself with the food he had brought. The soldiers of Umi-a-Liloa noticed the fisherman of Puueo that he had taro for food, and his meat was hehu (roots).

* Class of chiefs consulted by the King in times of difficulty.

Umi's army was in difficulty at this place on account of the road, and they began to move forward in single file in descending the pali. As they emerged therefrom they came to a very narrow passage where they had to suspend and swing themselves forward, but the place occupied by Nau gave him a commanding, sheltered position, so that when an invader stretched forth his hand in descent he was thrust through with his spear so that each leapt the precipice to their death. And thus it continued so that many were killed by this one man because of the narrow and difficult roadway. Forty were the number thus killed. But Piimaiwaa ascended the top of the precipice to observe the proceedings and noticed but one man commanding the defile, therefore he descended vowing vengeance upon him. By the leap of Piimaiwaa from the top of the precipice Nau came to his death, and the army moved forward.

By the death of Nau there was no one to give warning of their approach to the chiefs of Hilo, so that by sundown the battle was in progress in the town. The invaders were provided with lama torches. Umi singled out the houses of the king of Hilo, as also his daughter's, which he had surrounded by his soldiers and the chiefs slain. The daughter of Kulukulua was safeguarded in the battle and the famous ivory necklace "Nani-koki," the cause of the war, was recovered.

When the battle ended, Hilo was joined to Hamakua and Umi became its acknowledged king.

HOW PELE LOCATED ON HAWAII

FROM the legend of Aukele-nui-a-iku, the "Joseph and his brethren" story of Hawaii, with its ear-marks of great antiquity, is selected the following account of Pele's changes in these islands, occasionally referred to, and which, strange to say, agrees with the view of geologists as to the successive order of volcanic activities in Hawaii-nei.

Aukele, under the pretense of fishing experiences to account for daily absenting himself from home, is taken to task by Nama-kaokahai, his wife, who, becoming suspicious of undue influences being exercised by her sisters, Pele and Hiiaka, over her lord.

visits them with jealous wrath and drives them beyond the range of their affinity power over her husband.

With all Aukele's smooth words in explanation for his absence, his wife did not believe him, and said: "You sly old thing; do you think I am a fool not to be aware of your doings and your deceit? I know whom you go down every day to see, so here is what I wish to say to you: The outside of your body is free to others, but your skin and flesh are my property. I do not want you scratched and ill-treated."

Notwithstanding these words of admonition from his wife, Aukele took no heed; they were as nothing to him, for he kept on going down to fish. Returning late again one evening with his body scratched and bitten all over and his neck cut, Namakaokahai took notice of his condition and evident disregard of her advice, but she grew less angry toward her husband and transferred her wrath upon her younger sisters, Pele and Hiiaka, the authors of all this trouble.

When Namakaokahai next saw her sisters she gave them a terrible beating, on seeing which her brothers endeavored to help them, but the interference was of no avail, for she gave them like treatment, so that they had a hard time to save themselves. Because of this Pele and Hiiaka departed to another place of abode, but Namakaokahai followed them and drove them away. They thought that in due time she would forget the cause of her anger and cease driving them from place to place, but in this they were mistaken, for they were discovered each time and forced from their new home. At this persistency of their older sister they grew so angry that they went forth, vowing they would never again turn back nor live in the same land with her.

Studying the matter of their future abode, they finally decided upon moving to the Island of Kauai, so they set out on their travels and in due time arrived there and located at a place to the south of Mana, where they hoped to live unmolested. Settling at this place they started a fire, the glare of which was seen from the high peaks of the land of Nuumealani, where Namakaokahai was stationed on the lookout for them. When the ruddy glow of volcanic fire revealed their presence on Kauai, she followed them there, and an angry fight took place in which Pele and Hiiaka

nearly overcame their sister, but, being possessed of supernatural powers, Namakaokahai in time overcame them and drove them out. Because of this incident the land on which it took place was called Puukapele, as it is known to this day.

Leaving Kauai they journeyed to Oahu and took up their abode in Kealiapaakai, at Moanalua, where they dug down into the ground for a home. On coming from Kauai they brought with them some red soil and salt, which they deposited there, hence the names Kealiamanu and Kealiapaakai to that locality. Upon finding that place too shallow they moved to Leahi. Digging here awhile and finding it also too shallow for a permanent home, they moved to Molokai and settled down at Kalaupapa. After a time, in endeavoring to locate at that place, they were again disappointed, for they struck water, which compelled them to move elsewhere. The hole they dug was called Kauhako, as it is known to this day. From Molokai they journeyed to Haleakala, on Maui. Upon arrival at this place they began digging a pit, as usual, which they left open, on the top of the mountain. The rocks in Hanakaieie and Kahikinui were those that were dug up by them and deposited there.

After Pele and Hiiaka were driven from Kauai, Namakaokahai returned to her own land and proceeded to the highest peak, from which she could see Maui. Observing a fire started, she came to their new abode, where another battle was fought, in which Pele was killed, whereupon Namakaokahai went back to the peak of Nuumealani. After a time she looked towards Hawaii and saw Pele's fire burning on Mauna Loa, but she did not return to renew her fight, thinking they had removed far enough from her.

Regarding Pele: She was indeed dead through the battle that was fought against her sister, on Maui, but she traveled in spirit to Hawaii, where she again came back to life and resumed her volcanic powers. It was Pele and Hiiaka that dug that pit at Kilauea, on the slope of Mauna Loa, and that place has been their own to this day.

ANOTHER VANISHING LANDMARK

ANOTHER of Honolulu's landmarks is giving way to the march of progress and in this case it is in the fullness of time. The marvel is that in so central a location as Union street near Hotel, a building erected early in the "thirties" should have withstood the influence of neighborhood improvements so long.

The building in question was one of the famous "French Hotel" structures, and later prominent in the group of government offices, as will be seen as we deal with its historic changes. It is, we believe, the last but one of the adobe structures of early Honolulu (of which there were many) which bespeaks the Spanish-American influence in those days,* and in its existence of some eighty or more years has naturally had many uses that connect it with the development of the city which may afford a chapter of some interest. It has been familiar to residents as a two-story structure, adobe below and wood above, but this difference of material marks a change of enlargement that could not have taken place earlier than 1848. Originally it was a one-story adobe building, built by Dr. T. C. B. Rooke, and used by him as his dispensary for several years, while the two-story wooden building aligning on Fort street in the same premises was used as his residence until the completion of the building at the corner of Nuuanu and Beretania, known in later years as Queen Emma's.

Dr. R. W. Wood was the next occupant of this adobe building, using it for the same purpose also, his dispensary, until the completion of his new coral building, on Hotel street, afterward Dr. McGrew's, that gave way for the erection of the Alexander Young Hotel. Up to this period it was still the one-story structure.

The next tenant was Captain F. A. Newell, for, or by, whom it was altered, with an upper story of wood and lattice enclosed veranda, giving it more of the residence character. This is the same party who brought out the royal yacht *Kamehamcha III*, in 1846, that was seized and run away with by "*les braves Poursc-*

* Note.—In 1847 Honolulu had no less than 345 adobe houses, and 29 of coral or adobe below and wood above.

vants" three years later. Captain Newell's lease is dated June, 1848, for three years, at \$400 per annum, and is noted as the premises lately occupied by Dr. Wood as his dispensary, thus identifying it. Newell was a well known and popular master of San Francisco and Honolulu packets for many years, and was lost finally with his vessel, the *Vaquero*, on a voyage to Sydney from San Francisco, in the latter part of 1858.

The Fort street portion of the premises and building leased about the same time to Pierre Le Gueval and Hippolite Psalmon, for two years at \$600 per annum, described as adjoining Newell's. This was the origin of the French Hotel, for it figures as such in the demands on the Hawaiian government claimed by Admiral de Tromlin and Consul Dillon, in 1849, for damages committed by foreign sailors. Victor Chancerel and Ariene Medaille succeeded to the premises and business in 1850, under a three year lease, occupying the premises through from Fort to Union streets. The business was carried on by "Victor," as he was generally known, up to about 1860, during which time the establishment and its proprietor gained much notoriety. This boniface had a cottage and garden at Ewa where he entertained the ship captains. There were French whaleships in those days and reports said the masters found it profitable in more ways than one to make trips in their boats to Pearl River to an estuary near which was Victor's garden.

About 1862 the Government Office moved over from the old Pelly premises, on Hotel street. The Fort street building was occupied by the Board of Education and the Foreign Office, while the Union street building housed the Finance Office, the Department of the Interior, the Land and Record Offices, for whose convenience and safety of their needs special vaults were built on the mauka side. It was during the government's occupancy of these premises that they had the protection of U. S. marines from the *Tuscarora* and *Portsmouth* at the exciting times attending the election of Kalakaua in February, 1874, while English marines from the *Tenedos* guarded the residence of Queen Emma.

Sundry tenants in various mechanical pursuits have succeeded in occupancy of the property from that time, till now, in response to demand for a modern fire proof structure for this central location, the old adobe building and its adjacent shacks is giving way.

FEATURES OF THE SOMERS' SYSTEM OF TAXATION

PUBLIC attention has been called this past year to a system of taxation that is claimed to be working very satisfactorily in several cities of the middle west, known as the Somers' System, evolved by W. A. Somers from his experience as a deputy assessor in the City of St. Paul.

A body of representative citizens of Honolulu interested in the subject have sought to familiarize themselves with its workings, and impart the knowledge of its advantageous features over the present method in vogue for the consideration of intelligent voters and taxpayers.

From a paper presented at one of these civic gatherings we make the following extracts illustrative of its workings, a paper designed, as the author states, not as a criticism of the present tax administration, which has been much improved, but of the laws which produce the unsatisfactory and cumbersome system now in vogue.

The basis of property assessment in Hawaii is that of "full cash value." Its legal theory is said to be: the value of a land-site that a willing buyer, who is not compelled to buy, will pay a willing seller who is not compelled to sell.

It cannot be denied that the application of this definition is very limited. Add to this, then, the local method of assessing each person's property separately, and the range of guesswork is widened, and to cap the climax the laws of Hawaii, in their practical application, make it the duty of *one man* to value all the land in his relative working district—be it large or small, productive or waste, residential or commercial, and idle as well as improved land.

The Somers system is the result of a study of the old methods, and is a successful effort, if we may judge of the reports from the various cities, towns and counties, that have adopted this method of valuation.

It is evident that the only list of values that can be absolutely satisfactory to a community would be a list representing the unanimous opinion of the community, which, of course, is an im-

possibility. The assessor must therefore undertake to obtain a community expression of some common knowledge so related to the land values that this community expression can be used as the basis for calculating the value of each lot.

The fundamentals of this system are two—first, the establishment of a community opinion of values.

This common knowledge is found in that knowledge common to all people of the community of the relative importance of the streets. The fact that the value of city land is directly comparable with the comparative usefulness of the streets which make it accessible to the trade and life of the city, makes the knowledge a reliable and accurate basis for calculating the value of the lots. While this community opinion is not expressed in definite form of price or value, it has been demonstrated that a very clear expression of it can be obtained by comparing the streets one with another on the basis of their frontage values.

Locally, the interchange of opinions relative to realty values is quite generally indulged in, and the development of community opinion is already far advanced.

No assessment can be satisfactory, and therefore successful, unless it conforms to the opinion of value held in common by a majority of the citizens. The taxpayers are the judges of the equity and justice of the assessment; the satisfaction of the taxpayers is the supreme test of the success of the assessment. It must, therefore, conform to community opinion of value.

The second fundamental of the Somers system is the application of the unit system to the land, the same as we would apply it to any other commodity. That is, we will assume, for purposes of illustration, that the unit adopted is one foot frontage and one hundred feet deep. So that after this unit has been valued it serves as a basis or unit for the valuation of a large amount of contiguous land.

For the practical application of this unit system it is necessary to construct a unit value map of all city lots, as values are high and conditions are complex, but the same general principles are applied in sparsely-settled localities, as, for instance, the windward side of this island, where there grows up and becomes associated with each tract of land a well-recognized opinion of its value per

acre. That is, those living near such a lot have a good idea of its acre value.

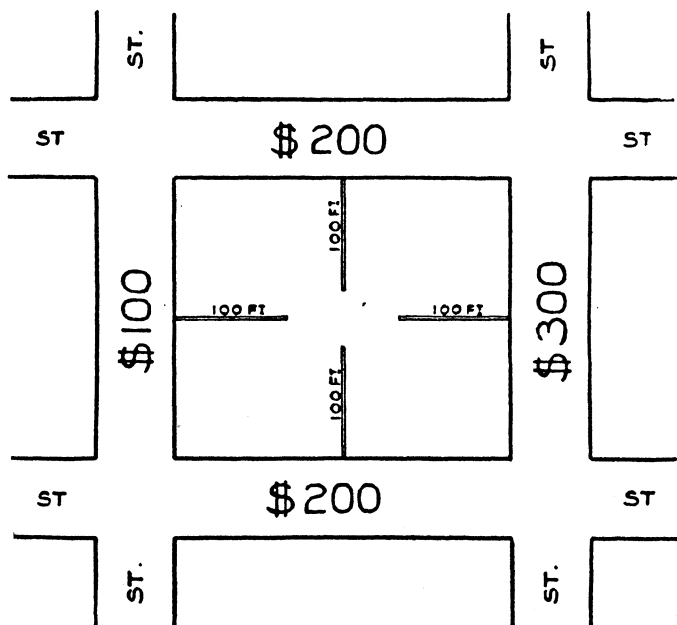


Illustration of Location and Valuation of Somers Unit-Foot.

Community opinion of street values is reduced to tangible form by the naming of a committee of representative taxpayers, who record upon this unit map the value of a unit on each side of each block in the city. The unit is one foot wide by an agreed-upon depth, located in the center of the block where corner influence does not affect its value.

It is obvious that the valuation of each and every lot is arrived at upon this same fair and equitable basis. It is also clear that in case any correction is found necessary that such readjustment must take place solely in the unit values.

Land at street corners is treated separately, but a unit value is placed on each intersecting street and these values then blended to secure the value of the corner lots.

Having determined the depth in feet of the unit, which depth will vary according to whether the use of the land be mercantile,

residential, manufacturing or otherwise, all lots of the same depth as the unit are thus taken care of. Those lots having a greater or lesser depth than the unit are valued by the use of a percentage scale. This scale is arranged to cover the ideas of the committee as to the increase or decrease of the values in proportion to the depth of the lot.

Experience has shown that this percentage scale can readily be constructed to meet local conditions as to the availability of the lot for the particular general use to which it is put. So that, having established the value according to the depth of the lot, it becomes simply the mathematical application of this data, expressed in unit values, to determine the valuation of specific tracts of land.

The fixing of the unit values is the real assessment of the property made by representative taxpayers in a form accessible to the taxpayers and open to their criticism.

A readjustment or re-valuation of the unit values would have to be made every three or five years as conditions might seem to warrant.

Community opinion of street values is greatly strengthened and harmonized by the participation in the work by the taxpayers, and their knowledge of its detail. This also brings about the satisfaction in the work necessary to its success. In the City of St. Paul, the home of the Somers system, thirty-eight well-known and substantial taxpayers served on these committees, and they carried out their work in a manner that met the almost universal approval of the taxpayers by holding some twenty short sessions. St. Paul covers an area of about fifty-five square miles, and in applying the Somers system to this area, it was found that over 150,000 lots of land were valued, and this valuation proved highly satisfactory to the taxpayers, even though it was found that the aggregate valuation of St. Paul property was increased twenty-five per cent in one year. This happens partly through the finding of unassessed property, but largely through the equalization of the valuations. This result would be reversed in cities where property was uniformly over-valued, but the experience gained in the application of the Somers system in various localities indicates that much land is found that has never been assessed, and that the benefits derived in the first year of its installation more than offset the expense connected with the change.

The impression prevails that, locally, a large amount of land is escaping taxation owing to the lack of proper maps or other material suitable for the correct estimation of areas.

With the unit values thus established, and the data collected as to improvements, the largest part of the work of assessment is completed, and no man can say that favoritism as between one and another can exist when this system is in use.

The question of its practicability when applied to our "peculiar conditions" of great irregularity of lots, widely differing in physical characteristics and distinctive racial settlements, seems to be well answered in the experience of other cities where it has been found that the application of the unit values apply, without change, to ninety-five per cent of the individual lots.

It is well known that there are few cities where there is general approval of the methods of assessment and real estate valuation under the old methods of assessment, and it is a relief to state that Houston, Texas, in adopting the Somers system in 1912, brought satisfaction, according to its tax commissioner, to ninety-eight per cent of its citizens. In this particular instance, Houston reduced the valuations of over 5000 of its taxpayers, yet in the same year was able to reduce its rate of taxation from \$17 on the thousand to \$15, a result almost wholly due to the equalization of the values and the finding of property previously unassessed.

Let it be remembered that the Somers system not only cures the inequalities of valuation for one year, but keeps them cured forever after, with but little yearly labor.

Cleveland and Columbus, Ohio, have completely adopted this system for both land and buildings, and six other cities and towns in that state are installing it. Springfield, Joliet and East St. Louis, Illinois; Denver, Colorado; Augusta, Georgia; Galveston, San Antonio and four other cities in Texas, and many other cities and towns in Arizona, in Wisconsin, Louisiana, Oregon and Canada have adopted the complete system. Philadelphia adopted it in assessing 20,000 lots with the buildings thereon in the business center, and other places have applied the system in part.

It has come to be extensively used in the appraisalment of property condemned for railroad purposes.

The cost of installation of this system locally should not be exceptionally large, but, of course, the first year would bear the burden. The economy of operation after once establishing it, however, would be so great that there could be no adverse argument on the score of cost. Wherever adopted it has justified expectations as to fairness, practicability and economy.

Furthermore, it is believed the local adoption of this system would be the means of solving, to a large extent, the difficulty that is now encountered in raising sufficient revenue for the purposes of government.

PROBABLE EARLY INDIAN VISITORS

IN THE August number of the *National Geographic Magazine*, 1914, an illustration of "Ancient Pictographs in Glen Canyon," Arizona, shows a group of outline figures cut in the face of the cliffs, which include a number that are identically the same as those found in several places in these Islands, the origin of which the Hawaiians have not even a traditional knowledge. A descriptive account of these local pictographs was given in the ANNUAL for 1904 by Albert F. Judd, with cuts from photopographs, and by Rev. W. D. Westervelt in the issue for 1906, as also J. F. G. Stokes' Monograph on Hawaiian Petroglyphs, issued by the Bishop Museum.

The similarity of the work and form design is no mere coincidence. The resemblance is so strong that but for the distance of separation from the continent one would say at a glance that the crude drawings were all made by one and the same artist.

Here at last is discovered evidence of the presence on these Islands at one time of a race from the American shores who pictured their wanderings through the group on the rock ledge of Koloa beach, Kauai; in a cave at Koko Head, Oahu; at two localities on Molokai; two or three places along the southern coast of Hawaii, and at Pahala.

This opens up a new and interesting study of Hawaiian antiquity, and its connection with certain tribes of North American Indians.

TWO GREAT SIGHTS IN HONOLULU

By GEORGE HAMLIN FITCH.

Being excerpts from his paper entitled "Curious Things Seen in Hawaii," written for the *San Francisco Chronicle*.

EVEN a good descriptive writer may well shrink from attempting to give a picture of Honolulu and the Hawaiian Islands. The city and the islands differ radically from the Orient, because here the early missionaries from Boston put the American stamp on everything and the trade winds transform what would be intolerable humid heat into an earthly paradise for those who do not feel partial to hard labor. In a word, the Hawaiian Islands are a lotus eater's land, where it is always afternoon and where the call to strenuous work is seldom heard. They are an ideal place for a vacation, especially in the winter months, when ice and snow hold fast most of the United States. Even to a Californian the climate is singularly equable, as the mercury seldom drops lower than 55 degrees and in mid-summer it rarely climbs above 85 degrees. To one used to a harsher climate, this equable temperature, with its soft balmy winds, seems very enervating. Walking in the middle of the day produces profuse perspiration and energy is much relaxed. It is a positive effort to walk more than a block or two, and mental work is not pleasant. After one is acclimated, however, the blood becomes thinner, and old residents of Honolulu declare that they can do nearly as much work as on the mainland.

* * * * *

The two most wonderful sights in Honolulu are the work of man. These are the Aquarium and the Bishop Museum. The first belongs to the city* and, because of the extraordinary variety and coloring of the fishes, it surpasses in interest the great Aquarium at Naples. The other was founded by Charles Reed Bishop, a wealthy merchant in Honolulu, in memory of his wife, the Princess Pauahi, who was the great-granddaughter of the ruling chief at the time of Captain Cook's visit and a direct descendant of Kamehameha the Great. The museum is housed in

[The Aquarium was established by the Castle Estate contributing the site, and Mr. and Mrs. Chas. M. Cooke erecting and outfitting the building. It is maintained by the Rapid Transit Company, not by the city.—Ed. Hawaiian Annual.]

a fine stone building in the center of Kamehameha school grounds at Kalihi, a suburb of Honolulu.

The Aquarium is located near the famous Waikiki beach and is easily reached by a car ride of about twenty minutes. The building is unpretentious and the tanks are not arranged with the art shown in the Naples aquarium. What impresses the visitor almost at the outset is the wonderful variety of the fishes and their equally wonderful coloring. To describe them as they are lays one open to the charge of exaggeration. Not only are the fish of fiery red, deep blue, light blue, orange and other primary colors, but these colors are blended in many variations of stripes and other eccentric markings. Then, too, scores of these fish are marked by queer patches of vivid colors apparently set into the body of the fish. Others have elongated noses or long streamers of white or yellow that follow them like a pennant.

THE BISHOP MUSEUM.

The Bishop Museum can be seen very fairly in two and a half hours, although a second visit will be found profitable. The location of the building is singularly fine. From its windows one may look out upon a noble stretch of territory. Mrs. Bishop, after a life of usefulness to her people, left her entire estate to found schools for young Hawaiians. Amid a fine park at Kalihi are grouped the buildings of the Kamehameha school, where a large number of young boys and girls are educated in the ordinary English branches in manual training. The original museum consisted of an entrance hall and three rooms; to this have been added two wings, one for Hawaiian curios and one for Polynesian. Besides its unique collection of Hawaiian articles that serve to illustrate the old life of the people, the museum is the richest in the world in Polynesian exhibits. Much of the pleasure and profit which the tourist gains from the museum is due to the fine arrangement of the exhibits and the admirable casts† of Hawaiians made by the director, Dr. William T. Brigham, who has been in charge of the institution since its foundation. Dr. Brigham is well known to scientists for his works on the volcanoes of Hawaii.

Though nearly 80 years of age, he is full of energy, and if you are fortunate enough to carry a letter of introduction to him he

†[The casts illustrative of Hawaiian life is the work of Allen Hutchinson, Sculptor, under the direction of Dr. Brigham.—Ed.]

will not only show you all the treasures of the museum, but he will give you a mass of information about early Hawaii and its people which he has gathered during his 40 years of residence on the islands. * * *

The nucleus of the museum was the large and priceless collection of mats, calabashes, feather work, tapa and relics that were bequeathed by Mrs. Bishop as the last of the royal line of the Kamehamehas. To these have been added many treasures given by the late Queen Emma and fine collections of 9000 species of shells, of Hawaiian plants, birds and insects and rich exhibits of ethnological specimens not only from Hawaii, but from all the principal islands of Polynesia. The rare treasures of the museum are in the kahili room. These are kahilis or large feather standards used at funerals of royalty, and the famous robe of the first Kamehameha, made entirely of feathers from the orange and black mamo bird, which is said to be valued at a million dollars. These birds, as well as the yellow and black oo, the scarlet iwi and others, were protected by stringent decrees, and the feathers were used exclusively in the making of these royal cloaks and standards. The rich yellow of the mamo cloak is contrasted with the more common cloaks of the oo bird. The British museum has a smaller mamo cloak than this, which was given to Queen Victoria.

OLD HAWAIIAN TREASURES.

The Hawaiian hall is rich in articles that illustrate the early life of the people of the islands. Dr. Brigham devised the ingenious plan of taking plaster casts of living Hawaiians who were good types of their race. Then from these casts were made the figures that now represent the worship and the industries of the people. Thus, for instance, we have natives pounding the taro to make poi, the national dish, and others cutting from stone the pounders used in this work. Others are shown spinning and weaving and making weapons and fishing tackle. One of the most striking groups is that of a kahuna, or medicine man, praying before a big calabash, in order to draw down a curse upon his enemy. So superstitious are the natives that even in these days if a man learns that a kahuna is praying for his death he takes leave of his friends, settles his estate, turns his face to the wall and gives up the ghost.

Among the valuable specimens in this room is a unique collection of kapa, or tapa cloth, made from vegetable fibre. Of all the islanders of the Pacific, these Hawaiians made the finest tapa, and Dr. Brigham has gathered here wonderful specimens of their skill. Most of this cloth was made from the paper mulberry, a shrub that was cultivated by all Polynesians. The bark from the lower branches of these trees was stripped off, dried and then laboriously beaten, and the fibre welded together into sheets. The pattern carved on the beater gave the figure to the tapa cloth, and the coloring was done by vegetable dyes. The museum contains also many fine specimens of the old basket work, which has now become extinct. The collection of hooks, nets and other fishing implements is the most complete in the world. The Kamehameha rulers were all noted fishermen, and their finest implements were handed down to Mrs. Bishop. It is a curious commentary on the decadence of the modern Hawaiian that he has permitted the Japanese to monopolize fishing for the markets of the islands.

GRASS HOUSE AND HEATHEN TEMPLE.

Perhaps the most interesting exhibits in the Hawaiian hall are the large central cases, one containing an ancient grass house and the other a replica of an ancient sacrificial temple. The grass houses have well-nigh disappeared from the islands, although over 30 years ago they were universal in the more remote parts of the islands. This house was found in Kauai, the Garden Island, and it was evidently made by skilled workmen. The frame is of timber, with strong rafters, the whole being bound together by tough braid and thatched with pili grass. The only opening usually provided was the door, although sometimes a small hole was made in one gable. The door of plank was seldom over three feet high. A small circle of stones on the ground floor provided a fireplace, and at one end this floor was raised slightly and, covered with fine mats, served as the family bed. There was no furniture, as the Hawaiian squats on his haunches when working or taking his food. These houses were wholesome when new, but they soon became musty and vermin-infested, and the ventilation was poor.

The model of a temple* was made to scale from an old temple under Dr. Brigham's directions. The whole place was inclosed

* The heiau of Wahaula, the first temple of Paao.

by a high stone wall and at one end was the raised platform on which human sacrifices were made. A peculiar incident which tended to confirm the native belief in the efficacy of their heathen gods occurred when the roof of this hall was being repaired. A young native carpenter had so angered his mother that she cursed him in the name of the ancient gods. He laughed at her threats and went to his day's work. While he was helping to put a large skylight frame in place, one of the girders on which he was standing, gave way. He fell about twenty-five feet, striking on the glass frame of the temple exhibit and shattering the plate glass, which mangled him terribly. His bleeding body fell directly in front of the altar of human sacrifices. The native workmen told the story, and the mother rejoiced that her curse had borne fruit. When they told her of the manner of her son's death she shouted: "You see now how great is my influence with the gods!" On the strength of this she became a kahuna and derived a good revenue from superstitious natives who paid her to ward off evil from them or to bring down misfortune on their enemies.

The Polynesian hall is so full of noteworthy exhibits that only a few of the more striking can be named. The finest woodwork in war clubs, paddles and canoes is that of the Maoris of New Zealand. Here are many fine specimens, elaborately carved. Among the Polynesians the cannibals are the best workmen in all kinds of decorative work. Among the best paddles, spears, war clubs and canoes are those made by the natives of the Solomon, Marquesas and Fiji Islands. One of the finest things is a large wooden bowl from the Solomon Islands in which human flesh was cooked. The highly polished dark wood is finely inlaid with intricate patterns in pearl shell, and at each end is a baboon-like figure. The human flesh, known as "long pig," was cooked by dropping hot stones into the water that filled the dish. A smaller bowl, more finely finished than the other, was used to serve human food to a chief. Among other curios are models of canoes from the Marshall Islands. These islanders were the best navigators of the Pacific, having charts and the compass, made out of bamboo. This Polynesian hall is very rich in exhibits from each island and the visitor will be impressed with the variety of the weapons and paddles, each island having a type of its own.

Dr. Brigham has gathered specimens of idols from the various islands, some of them revealing obscene features which make them resemble the totem poles of the Alaskan natives. The collection is so rich that one may spend hours in this Polynesian hall. The museum is noteworthy for its independence of outside aid. Thus Dr. Brigham has his own taxidermist with a large shop where all specimens are mounted. A carpenter shop where cases are made and even models of fish and animals; a printing office where catalogues and reports are gotten out and all labels are printed. In fact, take it all in all, it is one of the great museums of the world and with its large revenue it is sure to increase in richness with every year.

RETROSPECT FOR 1914

HAWAII has rounded out its first year under the changed administration, a year that has been marked by watchful effort to withstand the effect of reduced revenues of our leading industries, partly the result of tariff changes and outlook, and partly the low rates that have prevailed for all our products, save a short season following the outbreak of war in Europe when the sugar market improved for a time. Though the bulk of the season's crop had been marketed the benefit on the balance came as a timely relief and stimulated trade in general.

It has been a strenuous year in various ways, and through it all our new governor has exercised a more conservative course of administration than meets universal approval. Official changes have not been so complete nor rapid as certain elements in the party demanded. A number have been made, as was natural to expect under a new regime, not only in territorial, but also in federal and in municipal officials. These will be found noted in the Register and Directory division of the Annual, corrected to the close of November.

Honolulu is still waiting for the long promised federal building, the site for which has been up again for consideration, with the prospect of substituting the Irwin for the Mahuka site and strengthen the civic center idea of city improvement.

Pearl Harbor dry dock work has not yet been resumed, notwithstanding the decision of the authorities in Washington early in the year to carry out the project, for which liberal appropriations have been made.

Various public improvement projects have been held up waiting the placement of the last authorized loan. Treasurer Conkling's visit East on this mission was late enough to have the conditions of the New York market in these war times as unfavorable for any bid save at a serious sacrifice not to be thought of. A portion of the bonds have been taken up by local investors.

OUR FIRST PRIMARY.

Hawaii has had her first experience with the primary and hardly knows yet whether she enjoys the change. There are some apparent defects in the new law which the Supreme Court has been invoked to interpret, though this does not weigh seriously against it. To that class who dote on politics, the long seige of the primary campaign followed several weeks later with the general election, affords them the longer period of exciting uncertainty, but at the suffering of candidates.

To an onlooker the strain is too long and severe for the nightly speech-making tours of the city and island, or islands—as in the case of the delegate—all of which are sacrifices of individuals for the public weal except where the coveted honor is sought for personal ends, and unfortunately such are found in all such campaigns. It is marvelous the number of aspirants for legislative and municipal service that comprised Honolulu's ballot at the primary, there being 119 seekers for twenty-eight positions, inflicting an unwarranted mental strain on intelligent voters to learn who one half of them were, for—excepting the delegate—anyone obtaining but fifteen names petitioning him to enter the race, on payment of the nomination fee, (\$10), is entitled to have his name on the official ballot.

ELECTION RESULTS.

The result of the recent election just passed has been largely Republican for the senate, all but two for the house, decidedly so for delegate, and for Oahu's municipality save one. The votes for delegate to Congress doubtless drew out the full strength of

the respective parties, the Progressives appearing in the field for the first time, and the Home Ruler retiring as the result of the primary. The noted feature of the whole campaign is that it has been the cleanest political contest experienced and with far less expense than heretofore. The votes for delegate were:

Kuhio (Republican)	8,590
McCandless (Democrat)	4,429
Carter (Progressive)	610

Total13,629

With the hold-over members of the senate that body will have eight Republicans, six Democrats and one Home Ruler. Kauai's neglect to return E. A. Knudsen, with his long creditable senatorial experience, with several terms as its president, is to be regretted. The house will be almost wholly Republican; of its thirty members, but one Democrat and one Home Ruler will vary its party complexion.

For the City and County of Honolulu the Republican candidate, John Lane, defeated the incumbent (Democrat) by a safe margin, and the other municipal officers, except sheriff, and the full board of supervisors are also Republican.

OUR FLORAL PARADE.

The ninth annual floral parade in celebration of Washington's birthday, was carried through with considerable elaboration and enthusiasm, partly due to its Committee management being now under Corporation direction and control, and partly the benefit of experience acquired.

While the floral parade itself was reserved as the principal event for the day observed, Saturday the 21st, its grandeur was somewhat eclipsed by the several days' attractions preceding and following, all of which made a strenuous week. The procession varied in some features from past parades, but on the whole was not behind in any attractions, novelty, or length. The closing competitive feature hitherto observed had to be omitted this year owing to lack of required space for observation cars. The pageant on Thursday, the 19th, of an incident in early island history, Umi's wooing of Piikea, illustrative of Hawaiian court pomp, etc., (as dealt with in an article on Pageantry in this

issue), touched a vein alike popular with visitor and resident. The military parade and review of so formidable a body of federal troops as was assigned for the day's observance was an impressive feature, the largest, perhaps, that Honolulu had ever seen.

The pyrotechnic displays at the Moiliili field, the eruption of Punchbowl, and attending the water carnival, was a spectacular success but at great expense. The series of baseball games which was made a daily feature, including Sunday, was too manifestly a money scheme to find favor with visiting tourists and not a few residents. Throughout Carnival week, as it has come to be known, the city itself was gaily decorated in her garb of patriotism, and brilliantly illuminated each evening by a blaze of electric light.

KAMEHAMEHA DAY.

Memorial day of Kamehameha I (June 11th) of 1814 was observed with unwonted loyalty to tradition in various parts of the islands, but notably in this city and at Kailua, Hawaii. The various Hawaiian societies, some twelve or more, united to conduct the day's celebration in a distinctively Hawaiian manner and free of all expense to the public in their enjoyment of its several features. Due preparation for the day's events had been in progress for some time and expectation and interest was rife. Early in the day the native societies and lodges formed for parade at Aala park and marched thence up King street to the Judiciary grounds for the unveiling of the Kamehameha statue, thence to the Executive building for a spectacular exhibit of court pomp of ancient time, followed by musical and literary exercises. In the afternoon, at Waikiki public baths section, was presented in pageant form the cession of Kauai to Kamehameha by Kaumuali'i, an account of which forms a subject in this issue. The day's celebration was brought to a close by a grand ball at the new armory that was fairly thronged with merry dancers till the customary "sma' hours."

The observance of the day in Kona, Hawaii, was the journeying in stately pomp of a canoe flotilla, from Keauhou to Kailua, of Kamehameha with his court and warrior attendants. Arriving at this latter point visitors and populace indulged in a veritable Hawaiian luau, free to all.

BIRTHDAY OF KAMEHAMEHA III.

Under the auspices of the Daughters of Hawaii the centenary of Kauikeaouli, Kamehameha III, was observed this year in an unusual manner, first in memorial services at Kawaiahao church in this city, March 17th, at the unveiling of the tablet prepared to mark his birthplace at Keanhou, Kona, Hawaii, and again at its erection on that historic spot August 15th, both of which occasions were made impressive with eulogies in Hawaiian and in English, and in song and recitation illustrative of ancient custom now rarely met with. Queen Liliuokalani and Mrs. E. K. Pratt, claiming lineal descent from Keawe, founder of the Kamehameha dynasty, participated in both commemorative services, which were largely attended.

The subject forms a convenient historic reference paper elsewhere in this issue entitled "Commemorating a good King."

THE 1914 CROPS.

From the reports so far gathered Hawaii's sugar crop for this season promises 1914 to be the banner year of its output, and but for the long run of low market rate ruling would have been also the banner year in export value. The sudden advance in price as the war cloud in Europe burst, though the bulk of our seasons' crop had been marketed, has been a great relief to the industry and its depending interests.

Most of the plantations yield are exceeding the estimate at the opening of the season, so that in place of the 540,000 tons looked for as the 1914 crop, the official returns now indicate that it will reach 620,000 tons.

The export value for the fiscal year ending June showed \$3,467,309 behind that of the previous year, while in quantity we had shipped over twenty-eight million pounds more than in 1913.

Our second industry, pineapples, was also hit seriously by the drop in prices at the opening of the year, just as the canneries were preparing for its heaviest year. The supply has grown more rapid than the markets so far established have been able to consume. In consequence, many of the recent planters have failed to realize cost of their product. Maui's crop was estimated to more than double last year's, and Kauai's also promised large gains, but the low rate ruling abroad led a leading packer

to assert that from 6,000 to 8,000 tons of Oahu's crop would rot this year, for offers as low as \$3.50 per ton were made with no buyers.

This comes unfortunate for the recent Haiku homesteaders and others, in like circumstances, who were looking forward to realize on their labor, as also to the extensive new cannery of the Libby, McNeill & Libby Co., covering some four acres, at Kalihi, on the line of the Oahu railway, with a capacity of 250,000 cans per day. This factory started July 1st on an estimated pack for 1914 of twenty million cans. In full swing the cannery will require 1,000 hands.

The coffee crop for 1914 is reported heavy, being estimated at 45,000 bags of which 40,000 would be Kona's share. Exports for the fiscal year ending with June show shipments of 5,507,870 pounds, valued at \$825,276. The drop in price since July has been serious, with the coast market inactive.

Encouraging reports are current relative to Kona's tobacco industry. The 1913 crop at Keokea was about 30,000 pounds, which is now in the process of curing. Of the 1912 crop there was a balance still of 8,700 pounds to be shipped. Cigar-making at Honaunau was in progress for the California trade, the year opening with 50 M on hand.

The rice industry seems fated for continuous reverses. Fortunately most fields have given good yields this year, so that the export tables show an increase of 444,413 pounds over last year, but at a sacrifice of \$6,633 in value owing to the reduced rate that has prevailed. With the glut of the coast market and the low figure of the Louisiana product, owing to their heavy yield, the outlook does not promise early relief.

BUILDING NOTES.

Among the more prominent new structures for the year is noted the completed Kauikeolani building of the Brewer Estate, on King street, at a cost of \$100,000, erected for the Hawaiian Trust Co., with special safety vault features, which they now occupy; the Hocking block, corner of King and Nuuanu streets, costing some \$42,000; an additional story to the McCandless building, corner of King and Bethel streets, to accommodate the Commercial Club; the McCorriston building on Fort street

just above Hotel; alterations in what was the Palm Cafe for the Sachs' Dry Goods Co., to which they have moved from their quarters at Fort and Beretania. Hotel accommodations of the city are being enlarged by an extensive addition to the Pleasanton, involving an outlay of \$40,000.

The new St. Peter's church of the Chinese Episcopalians, on Emma street, is about completed, as is also the new Catholic church on Wilder avenue, opposite the Punahou grounds.

New residences are going up continually in the suburbs, and the departure from the bungalow type in the pretentious chateau of the Shermans, in upper Nuuanu, and its influence in that section affords a pleasing contrast. Building activity has marked the year throughout, though not of the volume anticipated.

Kauai rejoices in the possession of the first County building of the territory, a fine two-story concrete structure, recently completed at Lihue, at an expenditure of \$60,000.

Building improvements are noted at Wahiawa, home of the pineapple industry, and in this connection Honolulu has the distinction of possessing the largest cannery concern in the completion this summer of Libby, McNeill & Libby's new factory.

REALTY CONDITIONS.

The business of the Record Office presents a fair view of realty conditions, which for the first ten months of 1914 has shown a healthy tone. A greater number of documents have been recorded than for the same months in 1911—only about 400 less than in 1912—and greater by 155 than in 1913, for the same period.

The relative proportion of instruments recorded shows only a slightly increased number of mortgages above the average for the past three years. There is a decrease of about ten per cent in the number of deeds recorded, which was not unexpected in view of the heavy land openings taking place in 1912-13.

Rates of interest have fluctuated but little, being generally 7 or 8 per cent, and there seems to have been little difficulty on the part of home-builders in floating good loans during the past year.

HAWAII'S GRAFT PROBE.

The Commission appointed to probe the charges of graft in the administration of the county of Hawaii, consisting of Dr.

H. B. Elliott, C. A. Long and W. Williamson, referred to in the last ANNUAL, brought their labors to a close with the aid of H. Gooding Field, expert accountant, and made public early in May, the result of their twelve months' work.

Conclusive evidence was found to show that \$78,097.94 had been dishonestly used and road funds mulcted, in addition, of an amount unknown through the records having been destroyed. Of the above sum illegally used \$45,000 was recovered and suits have been entered for other amounts.

Eight persons responsible in this graft business have been convicted and are serving terms ranging from six months to twenty years. They comprise one auditor, two supervisors, one clerk to sheriff, and four road supervisors. The cost to the Territory of this investigation has been \$20,000.

PROSPECTIVE PLANTATION IMPROVEMENTS.

The Oahu Sugar Co. have placed a large bond issue to refund and exchange for balance of its outstanding bonded debt, complete their water tunnel construction, and prepare some 3,000 acres of new land for cultivation at its completion.

Koloa Sugar Co. have arranged for a bond issue of \$500,000 with which to replace their mill with one of latest improvement and greater capacity, and to carry through the irrigation scheme in progress from the Lihue Sugar Co.'s project.

ENLARGED CHAMBER OF COMMERCE.

This past summer witnessed the amalgamation of the Chamber of Commerce and the Merchants' Association under the new name of the Chamber of Commerce of Honolulu, the two organizations uniting for the purpose of greater efficiency in furthering commercial and public interests. The new body dates from May 27, 1914, with Geo. R. Carter, president; W. R. Farrington, first vice, and T. M. Church, second vice-president; C. H. Cooke treasurer, and a strong board of directors. Raymond C. Brown has been appointed its secretary. Within the Chamber a retail trades board of members has been organized, to have sole charge of all matters concerning that division. Of this body S. S. Paxson was elected chairman.

MATSON LINE ADDITIONS.

All Honolulu welcomed the arrival of the new steamer *Matsonia*, February 2nd, an important addition to the Matson Navi-

gation Co.'s line between San Francisco and this port, built expressly for our island service. She is 9,728 gross tonnage, with eighty-nine state rooms, giving accommodation for 242 first class passengers. Her time on this maiden trip was five days, four hours, six minutes from the lightship off San Francisco to Diamond Head. After a trip to Hilo she was thrown open for public inspection and received much praise at the evident provision for the comfort of travelers.

In March a similar greeting was accorded the new steamer *Manoa*, also built expressly for the island trade, of 6,805 gross tonnage, and with accommodations for ninety first class passengers.

A NOTABLE RECORD.

Captain H. C. Houdlett of the Oceanic S. S. *Sierra*, on arrival, March 2nd, 1914, rounded out its one hundredth voyage between San Francisco and this port, for which service it was built fourteen years ago. The memorable event was duly observed and the popular commander congratulated on his successful record, unmarred by a single mishap in all these years.

WEATHER CONDITIONS.

Following a long period of deficient rainfall, generous rains prevailed at the opening of the year throughout the windward islands, though Oahu and Kauai fell short of their average. Less than normal was the monthly record till May, with but few exceptions, at nearly all stations. Kauai, in March, had what they term a "Niihau storm," which gave most sections of the island a good soaking. In May and June the range exceeded the record for ten years past in nearly all stations.

Heavy rains in August were general throughout the group, causing raging torrents in several districts, with damage to roads, etc. The windward districts of Hawaii had continuous wet weather from that time till October.

A severe wind storm swept Oahu and parts of the other islands January 12-13, doing much damage in various localities and injuring several people, mostly at the Pali. In southern Hawaii even the cane was uprooted. The estimate of all damage was placed at \$75,000.

Higher winds than usual have prevailed throughout the

Islands most of the year, rendering the regular working of our coasting fleet extra hazardous, but fortunately with but one disaster—the steamer *Kauai*, at Puako.

REFUGEE VESSELS.

Among other things, as Hawaii's share in the present European conflict, besides the arrival of a number of refugee German steamships, and call for repairs of the cruiser *Geier*, subsequently interned on instructions from Washington, was the visit off port of the Japanese battleship *Hizen*, in watchful waiting outside the neutral limit, joined later by the *Asama*. While thus patrolling our waters the *Hizen* captured the German schooner *Aeolus*, from the Marshal Islands, as she was making for the port, October 24th, and after transfer of her officers and crew she was fired into, burned and sunk, the same night. The vessel and her cargo of copra was said to be valued at \$70,000. The next day a sister schooner, the *Hermes*, came near capture, but, reaching the three-mile limit, she got safely to port.

The refugee arrivals up to November 10th were: August 7, *Setos*, from Puget Sound; 17, *Locksun*, Manila; 19, *Pommern*, Brisbane; September 9, *Prinz Waldemar*, Japan; 15, *Staatskreter Kracke*, Jaluit; 16, *Loong Moon*, Japan; *Gouverneur Jaeschke*, Tsingtau; October 12, *Holsatia*, Shanghai; *O. J. D. Ahlers*, Tsingtau; 25, *Hermes*, Jaluit.

A PRINCELY GIFT.

While the Hawaiian Board of Missions was considering the advisability of erecting its contemplated memorial building on its recently-acquired Spreckels lot, corner of Merchant and Alakea streets, the trustees of the Mary Castle Trust donated to it, for this purpose, the site of the old Kawaiahao Seminary, having a frontage of 150 feet on King street and running through to Hotel. This will concentrate the Board's interests to familiar historic mission quarters. Tentative plans are already under consideration for a structure to meet the requirements of the association in its various features, and commemorate the centenary of missionary effort in these Islands.

MARINE CASUALTIES.

During heavy weather December 24, 1913, the steamer *Kauai* broke from her moorings and went ashore at Puako, Hawaii, and became a total loss.

The dredger *Geo. P. Denison* sank off the entrance to Pearl Harbor in being towed from this port January 27th during heavy weather. The severe strain so opened her seams that she filled rapidly and went down. She was subsequently recovered in a dismembered condition.

Ship *Erskine M. Phelps* arrived here January 29th under jury rig, having lost sails and light spars during a white squall on the 14th, which for a time threatened to dismast her completely and left her decks a mass of wreckage.

March 11th an accidental explosion of dynamite occurred on the drill scow of the Hawaiian Dredging Co., at work in the harbor, killing one man, injuring five others and wrecking the craft.

Barkentine *S. N. Castle*, from Tahiti, with phosphates for San Francisco, put into this port May 3rd in distress for repairs, having sprung a leak during heavy weather. In July the schooner *Zampa*, from Makatea, also with phosphates for San Francisco, arrived in the same condition.

Norwegian steamer *Henrik Ibsen*, from Tacoma for Adelaide, put into this port in distress October 22nd, having encountered a severe storm off Cape Flattery, during which her deckload of lumber was dislodged and the foremast carried away.

FIRE RECORD.

Through an explosion of gasoline in the laundry of the Young Hotel, January 7th, fire damage to the property of some \$600 resulted, and one man injured in jumping from the window.

On the 20th the town of Hilo experienced a fire which destroyed property valued at from \$12,000 to \$15,000, and but for the fact that there was no wind at the time it would have had more serious results.

The hardware store fire of Lin Sing Kee, on Nuuanu street, January 26th, resulted in a loss of about \$4000. Some of the inmates of the building were rescued with difficulty by the firemen.

February 23rd L. Abrams lost his beautiful Peninsula home by fire, with all its contents; loss was about \$10,000.

Two minor city fires occurred in May, one of which was caused by children playing with matches that entailed a loss of \$1877.

On August 1st fire broke out in a cottage of the Seaside Hotel

which spread to the grass pavilion of the Outrigger Canoe Club, both of which were destroyed and damaging the dressing rooms and building adjoining. In the second story of the burned cottage was a large collection of bric-a-brac bought in Europe by Geo. W. Macfarlane which was all destroyed by the fire.

In October a fire destroyed the plantation supply house of the Hawaiian Sugar Co., at Makaweli, Kauai, causing a loss of some \$16,000. The origin of the fire is supposed to have been spontaneous combustion.

A blaze in the bunkers of the *Prinz Waldemar*, at Pier 7, November 12th, after an hour's headway, was fortunately subdued by prompt action of the fire department, with but nominal damage.

NOTED VISITORS.

Among the many prominent personages that have visited the Islands during the year may be included high court dignitaries, officials, scientists, professionals and others. While some of these will doubtless come again to enjoy at length the pleasure experienced as "birds of passage," with others it will be as "ships that pass in the night."

The summer visit of Prof. Hiram Bingham to the scenes of his childhood, the first visit since winning his spurs as the famed traveler and discoverer of the lost city of the Incas, was an occasion when Honoluluans delighted to honor her distinguished son. And this was shown in an unmistakable manner at the crowded attendance at his lecture at the Opera House on his Machu-Picchu exploration in Peru, the proceeds of which he devoted to Leahi Home, netting it \$500.

The Leiter yachting party touched here from the Orient on their world tour, per steam yacht *Niagara*, expecting to pass through the Canal homeward. They were delighted with their Island visit, which included a run to Hilo. Like many others, they felt it all too brief.

NEW INDUSTRIES.

After looking well over the field, a company has been formed to utilize coconut husks in the manufacture of fiber for mats, brushes, cordages, upholstering, etc., under the name of the Pacific Fiber Co., and with special crushers and decorticating ma-

chinery has erected suitable factory buildings on Liliha street. This will turn to profit what has heretofore been an absolute waste in these Islands, and it is expected that the groves of Hawaii, Kauai and Molokai will furnish husk supply to meet looked-for demand of product for some time.

Another by-product of the pineapple industry is coming to the front in the recently established plant, adjoining the Hawaiian Pineapple Co., to manufacture syrup for its own cannery use from pineapple waste.

ANOTHER PARASITE HUNT.

Further effort is being made to secure the right parasite that will effectually control the fruit fly pest in these Islands, hopes of which were held out through Dr. Silvestri's effort, as related last year, and his report of other varieties yet available in Africa. This new search is in the hands of Messrs. D. T. Fullaway, entomologist of the Hawaii experiment station, and J. C. Bridwell, assistant entomologist of the board of agriculture and forestry, two experts well qualified for the work. Mr. Fullaway has already returned, eminently successful, with quite a batch of parasites of three varieties, thanks to his "personally-conducted" efforts. Other parasites to check the ravages of the boll weevil are being sought, that the cotton industry in these Islands, which started with so much promise, may get on its feet, and encourage the spirit of enterprise toward further effort of industry.

CO-WORKERS PROMOTED.

Hawaii loses several valuable and painstaking co-workers for her welfare this year through calls to more important eastern positions. Mr. Ralph S. Hosmer has been called to the Cornell school of forestry in recognition of his eleven years' work here as territorial forester, and Chester J. Hunn, from the staff of the federal experiment station to a more responsible position at Porto Rico. Dr. Wm. P. Kelly, chemist for several years past of the federal station, has also been called to assume charge of the University of California's research work in behalf of the citrus industry.

Last, but not least, is the transfer to the department of agriculture, at Washington, of Dr. E. V. Wilcox, director of the experiment station here for the past seven years, during which time he has rendered valuable aid toward diversifying Hawaii's

industries. His new sphere, the supervision of the various established stations, is a recognition of devotion to interests committed to his care.

TRAMPING FATALITIES.

Several tramping fatalities have occurred during the year, principally from the federal forces stationed here. February 3rd Private Downey, of Co. A, U. S. marine corps, lost his footing and fell over an embankment to his death on a ledge some forty feet below, in the Manoa section of the Koolau range.

In April, W. V. Parker and E. Fisher, of Fort Kamehameha, after a week's wandering were discovered in the Waiahole gulch of the Koolau range. Fisher's dead body was found badly injured. A supposed fluttering signal high up the cliff was thought to indicate his mate, but the inaccessible location and approaching darkness delayed rescue parties till the next morning, and though diligent search was maintained for ten days or more, nothing further was ever seen, nor the body found.

In the same month an aged Hawaiian slipped and fell over a steep embankment in Makiki and suffered such injuries that he lay helpless several hours till discovered by three lads who rendered aid and got him to a place of relief.

COUNTY FAIR.

Oahuans were treated to a "County Fair" entertainment of amusing burlesque of two or three days' duration early in May, at Schofield Barracks, thanks to the army folk at Leilehua. Its attractions and novelty were thoroughly enjoyed, the attendance being large from this city and included fun-making contingents from the Ad Club and the Elks.

FITFUL KILAUEA.

The scientists stationed at Pele's domain are looking forward in expectation of an outbreak, believing the eccentricities for some time past are premonitions of a violent volcanic eruption in the not distant future. Recent activity following a period of earth tremors, was more pronounced in display than at any period since March of last year. In early October the "Old Faithful" cone collapsed and formed a pool that has gradually increased in area and fiery display.

Plans are being made for an observation party trip to the

summit crater, Mokuaweoweo, to note what changes, if any, have taken place since the last visit thereto.

WAIHOLE TUNNEL WORK.

Already the outlook for the completion of this notable project is a matter of but a few months, so successfully has the tunnel work been prosecuted from both sides of the mountain range. When finished the main bore will have a total length of nearly 14,500 feet, with a capacity of 125 million gallons per day. Work on the windward side has been hindered by the amount of water that has been struck in the main bore through solid rock, requiring it to be led aside, yet, up to this writing, some 10,000 feet had been driven. Of this, the leeward or Waipahu side, in which little rock has been encountered, over 8500 feet have been excavated and no water met with to impede its progress. This leaves less than a third of the main tunnel yet to be put through. The branch tunnels as feeders are half finished.

Riveted steel pipe syphons to carry the water across the several gulches on this southern side will be 72 inches in diameter. Much new land will be available for extending the Oahu Sugar Company's fields by this project, as outlined in their new bond issue, the full development of which indicates a 45,000-ton concern within a very few years.

SUMMIT CRATER OUTBREAK.

As our forms close word comes of the looked-for volcanic outbreak of the summit crater of Mokuaweoweo, on Mauna Loa, Hawaii, as had been predicted for some time past, having overrun the customary seven year period of recurrent activity. The event took place November 26th, about 3:45 p. m., and has assumed great brilliancy from apparently two sources, giving foundation for reported flows of lava coursing down the Kona side of the mountain, though as yet this lacks confirmation. Prof. T. A. Jagger and party left the Volcano House early for the scene of activity, and the official report of his observations are being looked for with interest.

OLLA PODRIDA.

Captain Henri Berger's seventieth birthday was honored by a special band concert August 2nd, attended by high officials of the land and many friends, on which occasion ex-Queen Liliuokalani

decorated him with a gold badge in token of esteem for his long years of service (forty-two) as conductor of the Hawaiian Band.

On June 29th Mr. P. C. Jones resigned the treasurership of Oahu College, a position he had held with honor for forty years. At the annual meeting of the board, July 14th, he was presented by his late fellow trustees with an engraved silver platter in appreciation of his long and faithful stewardship.

Hilo is to the fore with a bona fide County Fair, the event taking place at the Armory, November 26-27-28, with exhibits from various parts of the big island and contributions from Maui and Oahu. Much interest was manifest in this pioneer movement, the success of which promises it to become an annual affair.

Kawaiahao Seminary celebrated, November 28th, the fiftieth anniversary of its founding by a pageant entertainment on the premises of the institution, Manoa valley, illustrative of its half century of progress and the various nationalities of its pupils.

NECROLOGY.

Among the rather large list of those called to their reward since our last issue are the following well-known or early residents, several of whom have died abroad, viz: Capt. A. N. Tripp (73), Col. A. G. Hawes (80) and Mrs. Hawes (65), Jas. Love (74), Wailuku; Mrs. A. McWayne (85), Mrs. H. J. Lyman, Hilo; Mrs. C. Poor-Bush (77), Wm. G. Irwin (70), in San Francisco; Jno. Ouderkirk (67), Joel Bean (89), Mrs. B. M. Allen (65), Edwd. Hingley (62), Mrs. M. A. Hewett (94), Capt. D. P. Penhallow (69), in Wailuku; D. B. Lyman, in Illinois; John K. Sheldon (69), Signor A. de S. Canavarro (64), E. R. Hendry (64), Mrs. M. Furneaux, at Hilo; Mrs. A. M. Stangenwald, Miss Ida S. Pope (50), in Chicago; Miss H. Carpenter, Mrs. A. R. Gurrey, Sr., Walter G. Smith (55), in California; C. J. Lyons (81), F. B. McStocker (60), Mrs. D. Scudder (55), C. C. Coonley (42), Dr. A. B. Clark (69), at Hilo; Mrs. Alex. Young (74), Mrs. M. Berill (89), Miss Fidelia M. Lyons (75), Mrs. Wm. Lanz (38), Mrs. H. G. (Thelma) Smart, San Francisco (20).

List of Sugar Plantations, Mills and Cane Growers Throughout the Islands.

Those marked with an asterisk (*) are planters only; those marked with a dagger (†) are mills only; all others are plantations complete, owning their own mills. (Corrected to November 15, 1914.)

NAME.	LOCATION.	MANAGER.	AGENTS.
Apokaa Sugar Co.*.	Ewa, Oahu	G. F. Renton ..	Castle & Cooke
Ewa Plantation	Ewa, Oahu	G. F. Renton ..	Castle & Cooke
Gay & Robinson ...	Makaweli, Kauai.	S. Robinson.....	H. W. Trhse. Tr. Co.
Grove Farm*	Nawiliwili, Kauai.	Ed. Broadbent ..	Hackfeld & Co.
Hakalau Plant. Co...	Hilo, Hawaii	J. M. Ross	Brewer & Co.
Halawa Sugar Co...	Kohala, Hawaii ..	H. H. Perry.....	Davies & Co.
Hamakua Mill Co...	Hamakua, Hawaii.	A. Lidgate	Davies & Co.
Hawi M. & P. Co...	Kohala, Hawaii ..	John Hind	Hind, Rolph & Co.
Haw. Agr. Co.....	Kau, Hawaii	W. G. Ogg	Brewer & Co.
Haw. Com. & S. Co..	Puunene, Maui ..	F. F. Baldwin ..	Alex. & Baldwin
Hawaiian Sugar Co..	Makaweli, Kauai ..	B. D. Baldwin ..	Alex. & Baldwin
Hawaii Mill Co.....	Hilo, Hawaii	Jas. Henderson..	Hackfeld & Co.
Hilo Sugar Co.....	Hilo, Hawaii	John A. Scott ..	Brewer & Co.
Honolulu Plant. Co..	Halawa, Oahu ..	Jas. Gibb	Brewer & Co.
Honokaa Sugar Co..	Hamakua, Hawaii.	Alex. Morrison..	Schaefer & Co.
Honomu Sugar Co..	Hilo, Hawaii	Wm. Pullar	Brewer & Co.
Hutchinson S. P. Co.	Kau, Hawaii	Geo. Gibb.....	Brewer & Co.
Kaeleku Sugar Co..	Hana, Maui	J. Chalmers	Davies & Co.
Kahuku Plantation ..	Kahuku, Oahu ..	Andrew Adams ..	Alex. & Baldwin
Kaiwiki Sugar Co..	Ookala, Hawaii ..	Jas. Johnston....	Davies & Co.
Kekaha Sugar Co...	Kekaha, Kauai ..	H. P. Faye	Hackfeld & Co.
Kilauea S. Plant. Co.	Kilauea, Kauai ..	J. R. Myers	Brewer & Co.
Kipahulu Sugar Co..	Kipahulu, Maui ..	Ah Ping	Hackfeld & Co.
Kohala Plantation ..	Kohala, Hawaii ..	Geo. C. Watt ..	Castle & Cooke
Koloa Sugar Co. ...	Koloa, Kauai	C. H. Wilcox ..	Hackfeld & Co.
Kona Developmt Co..	Kona, Hawaii	E. E. Conant ...	Hackfeld & Co.
Koolau Agr. Co.*....	Koolau, Oahu ...	W. M. McQuaid..	Hawn. Dev. Co.
Kukaiaiu Mill Co.† ..	Hamakua, Hawaii.	J. McLennan ...	Davies & Co.
Kukaiaiu Plant. Co..	Hamakua, Hawaii.		Davies & Co.
Laie Plantation	Laie, Oahu	S. E. Wooley ..	Alex. & Baldwin
Laupahoehoe S. Co..	Laupahoehoe, Ha.	C. McLennan ...	Davies & Co.
Lihue Plant. Co. ...	Lihue, Kauai ...	F. Weber	Hackfeld & Co.
Mahee Sugar Co. ...	Kealia, Kauai ...	G. P. Wilcox....	.....
Maui Agr. Co.	Haiku, etc., Maui.	H. A. Baldwin ..	Alex. & Baldwin
McBryde Sugar Co..	Wahiawa, Kauai..	F. A. Alexander..	Alex. & Baldwin
Niulii Mill & Plant..	Kohala, Hawaii ..	Robert Hall	Davies & Co.
Oahu Sugar Co.....	Waipahu, Oahu ...	E. K. Bull	Hackfeld & Co.
Olaa Sugar Co.	Olaa, Hawaii	C. F. Eckart....	Bishop & Co.
Olowalu Sugar Co..	Olowalu, Maui ..	Jas. Campsie....	Brewer & Co.
Onomea Sugar Co..	Hilo, Hawaii ...	John T. Moir	Brewer & Co.
Paauhau S. Plant. Co.	Hamakua, Hawaii.	Alex. Smith	Brewer & Co.
Pacific Mill (†)	Hamakua, Hawaii.	Alex. Morrison..	Schaefer & Co.
Pepeekeo Sugar Co..	Hilo, Hawaii	Jas. Webster ...	Brewer & Co.

List of Sugar Plantations, Mills and Cane Growers Throughout the Islands—Continued.

NAME.	LOCATION.	MANAGER.	AGENTS.
Pioneer Mill Co., Ltd.	Lahaina, Maui ...	L. Weinzheimer..	Hackfeld & Co.
Puakea Plant Co. ..	Kohala, Hawaii ..	H. R. Bryant ..	H. Wtrhse. Tr. Co
Union Mill Co.	Kohala, Hawaii ..	H. H. Renton ..	Davies & Co.
Waiakea Mill Co. ..	Hilo, Hawaii	D. Forbes	Davies & Co.
Waialua Agr. Co. ..	Waialua, Oahu....	W. W. Goodale.	Castle & Cooke
Waianae Plantation..	Waianae, Oahu ..	Fred Meyer	J. M. Dowsett
Wailuku Sugar Co. ..	Wailuku, Maui ..	H. B. Penhallow.	Brewer & Co.
Waimanalo S. Co....	Waimanalo, Oahu.	Geo. Chalmers ..	Brewer & Co.
Waimea Sug. M. Co.	Waimea, Kauai ..	G. R. Ewart, Jr.	Hackfeld & Co.

PIER INDEX.

The board of harbor commissioners this past year have modernized Honolulu's waterfrontage by substituting pier numbers for the wharf names of the city. For convenience of reference in current use, and identification in years to come, the following index will be of service:

Army Wharf (marine planter).....	Pier 1
Channel Wharf	Pier 2
Inter-Island Coal Wharf	Pier 3
Marine Railway Site (proposed wharf).....	Pier 4
Naval Wharf No. 1.....	Pier 5
Naval Wharf No. 2.....	Pier 5A
Richards Street Wharf.....	Pier 6
Alakea Street Wharf.....	Pier 7
Fort Street Bulkhead Slip.....	Pier 8
Fort Street Bulkhead Front.....	Pier 9
Oceanic Wharf	Pier 10
Allen & Robinson Frontage.....	Pier 11
Brewer Wharf	Pier 12
Nuuanu Street Wharf.....	Pier 13
Mauna Kea Wharf.....	Pier 14
Queen Street Bulkhead Wharf.....	Pier 15
Hackfeld Wharf	Pier 16
Railroad Wharf	Pier 17
Railroad Wharf (mauka).....	Pier 18
Railroad Wharf (makai).....	Pier 19

NOTICE.—The list of postmasters throughout the islands and accompanying data, which has been carefully revised for each issue of the Hawaiian Annual for the past thirty-five years with the cordial coöperation of the postal authorities, is discontinued, its official revision for 1915 being denied us as *improper public information*.

HAWAIIAN SUGAR CROPS, IN TONS, 1909-14.

From Table Prepared for Hawaiian Planters' Association by
its Bureau of Labor and Statistics.

Prior years of this table, originating in 1891, will be found in Annuals
since 1901.

ISLANDS	1909	1910	1911	1912	1913	1914
Production of Hawaii	172,341	159,856	193,456	209,920	197,415	217,654
" " Maui.	134,605	139,454	139,564	248,585	124,819	144,940
" " Oahu.....	138,423	128,648	133,133	139,712	124,228	133,560
" " Kauai.....	89,787	90,169	100,668	97,041	100,336	120,884
Grand Total	535,156	518,127	566,821	595,258	546,798	617,038
HAWAII PLANTATIONS.						
Waiakea Mill Co.....	9,486	10,424	13,365	14,332	13,076	14,922
Hawaii Mill Co.....	2,838	2,313	2,917	2,378	2,855	3,601
Hilo Sugar Co.....	12,291	12,568	12,301	13,872	14,033	18,937
Onomea Sugar Co.....	14,416	12,843	16,230	17,454	16,887	19,600
Pepeekeo Sugar Co.....	6,873	7,012	7,925	8,009	8,951	9,806
Honomu Sugar Co.....	6,041	6,541	7,293	7,450	7,004	8,567
Hakalau Plantation Co.	11,586	11,905	14,157	17,116	15,402	16,863
Laupahoehoe Sugar Co.....	8,004	7,970	8,058	9,087	9,671	11,193
Kaiwiki Sugar Co.....	6,646	*2,134	5,010	5,896	5,140	6,932
Kukaiiau Plantation Co.	2,225	1,037	2,662	2,021	2,078	} 3,225
Kukaiiau Mill Co.....	1,483	1,728	1,774	1,347	1,385	
Hamakua Mill Co.....	8,293	5,526	7,262	9,461	6,845	7,057
Paauhau Sugar Pl'nt'tion Co.	9,315	7,493	8,411	11,391	9,958	10,767
Honokaa Sugar Co.....	10,533	7,562	9,134	8,259	10,103	7,272
Pacific Sugar Mill.....	5,263	5,055	7,499	7,001	5,938	6,250
Niuli Mill and Plantation ..	2,768	2,231	2,648	2,014	2,803	2,700
Halawa Plantation.....	1,135	1,679	1,667	1,902	1,641	2,087
Kohala Sugar Co.....	5,570	4,662	5,924	5,979	5,675	4,475
Union Mill Co.	3,160	1,811	3,022	3,990	1,769	2,608
Hawi Mill and Plantation...	6,011	6,881	7,715	9,453	6,489	6,745
Kona Development Co.	1,271	1,589	2,333	2,570	2,943	3,477
Hutchinson Sugar Plntn. Co.	4,712	6,580	6,659	8,002	5,510	5,909
Hawaiian Agricul. Co.....	11,406	11,003	13,775	14,938	12,856	17,890
Puakea Plantation	992	1,474	1,094	1,538	839	1,035
Olaa Sugar Co.....	} 19,179	19,483	24,026	22,941	27,399	25,756
Puna Sugar Co.....						
Puako Plantation	835	352	595	519	185	.....
	172,341	159,856	193,456	209,920	197,415	217,654

* Formerly Ookala Sugar Plantation Co.

HAWAIIAN SUGAR CROPS, 1909-14—Continued.

MAUI PLANTATIONS.	1909	1910	1911	1912	1913	1914
Kipahulu Sugar Co.....	1,960	2,046	2,193	2,197	1,408	2,126
Kaeleku Plantation Co....	4,004	5,221	4,492	4,949	4,938	6,225
Maui Agriculture Co.....	28,808	29,295	30,765	34,612	24,633	33,660
Haw'n Coml & Sug. Co..	52,725	56,865	55,050	60,010	50,310	56,500
Wailuku Sugar Co.	17,761	16,932	16,197	16,775	13,988	16,100
Olowalu Co.....	1,829	1,796	1,693	1,707	1,738	2,027
Pioneer Mill Co., Ltd....	27,518	27,299	29,174	28,335	27,804	28,302
	134,605	139,454	139,564	148,585	124,819	144,940
OAHU PLANTATIONS.						
Waimanalo Sugar Co.....	4,404	3,845	4,962	4,979	4,287	5,133
Laie Plantation.....	829	1,170	784	1,200	977	1,600
Kahuku Plantation Co....	6,487	5,566	5,686	6,024	6,215	8,193
Waialua Agricultural Co.	32,267	30,870	32,271	33,356	29,751	30,298
Waianae Co.....	6,469	6,614	7,124	6,021	5,226	3,083
Ewa Plantation Co.....	33,949	31,422	31,206	34,435	29,512	29,563
Apokaa Sugar Co.....	432	902	453	895	381	925
Oahu Sugar Co.....	34,651	29,296	33,243	33,472	28,142	33,474
Honolulu Plantation Co.	18,688	18,373	17,143	18,692	19,337	20,154
Koolau Agricultural Co..	247	590	261	638	400	1,137
	138,423	128,648	133,133	139,712	124,228	133,560
KAUAI PLANTATIONS.						
Kilauea Sugar Plntn Co.	4,975	4,102	5,471	5,543	5,451	6,426
Makee Sugar Co.....	4,664	5,823	4,168	5,219	7,418	10,660
Lihue Plantation Co.....	15,780	14,765	17,740	18,021	19,819	22,065
Grove Farm Plantation...	3,376	3,673	3,724	3,098	3,695	4,415
Koloa Sugar Co.....	7,303	7,709	8,960	8,005	5,886	8,572
McBryde Sugar Co.....	13,686	10,596	14,073	13,147	14,509	16,345
Hawaiian Sugar Co.....	23,788	23,422	24,975	22,221	22,308	26,826
Gay & Robinson.....	3,354	3,223	4,684	4,659	4,821	5,172
Waimea Sugar Mill Co....	1,707	1,906	1,860	1,922	1,610	2,258
Kekaha Sugar Co.....	10,385	14,124	14,185	14,348	14,008	17,153
Estate of V. Knudsen....	769	826	828	858	811	992
Total.....	89,787	90,169	100,668	97,041	100,336	120,884

TERRITORIAL REGISTER AND DIRECTORY FOR 1915.

Corrected to November 29, 1914.

TERRITORIAL OFFICIALS.

Lucien E. Pinkham.....Governor
W. W. Thayer.....Secretary
I. M. Stainback.....Attorney General
C. J. McCarthy.....Treasurer
C. R. Forbes.....Supt. Public Works
Joshua D. Tucker.....Commissioner Public Lands
H. W. Kinney.....Supt. Public Instruction
J. H. Fisher.....Auditor
W. P. Jarrett.....High Sheriff
G. R. Clark.....Secretary to Governor

Jonah K. Kalaniana'ole.....
.....Delegate to Congress

LEGISLATIVE BODY.

SENATORS.

Hawaii—D. K. Baker, R. H. Makekau, D. E.
Metzger, S. L. Desha.
Maui—H. A. Baldwin, H. B. Penhallow, W.
P. Robinson.
Oahu—A. L. Castle, C. F. Chillingworth, J. L.
Coke, C. P. Iaukea, A. J. Wirtz, E. W.
Quinn.
Kauai—C. A. Rice, M. A. Mikaele.

REPRESENTATIVES.

Hawaii—H. L. Holstein, J. P. Hale, G. H.
Huddy, D. K. Kaupiko, H. L. Kawewehi,
N. K. Lyman, M. K. Makekau, E. de
Silva.
Maui—W. F. Crockett, A. Garcia, P. J. Good-
ness, R. J. K. Nawahine, A. F. Tavares,
E. Waiaholo.
Oahu—C. H. Brown, C. H. Cooke, D. P. R.
Isenberg, W. T. Rawlins, N. Watkins,
W. Williamson, E. K. Aiu, E. J. Craw-
ford, W. H. Crawford, E. K. Fernandez,
H. Vieira, D. M. Kupihea.
Kauai—J. H. Coney, J. Fassoth, J. K. Kula,
J. K. Lota.

NATIONAL GUARD OF HAWAII.

Lucien E. Pinkham.....
.....Governor and Commander in Chief

GENERAL STAFF OFFICERS.

John W. Jones....Col. and Adjutant General
Charles W. Ziegler.....Maj. and Surg. Genl.
Charles B. Cooper.....Maj. and Q. M.
John W. Short.....Maj. and Judge Adv.
Emil C. Peters.....Major
Elmer T. Winant.....Ordnance Dept.
E. D. Kilburne.....Major

F. L. Morong.....Captain Surg. M. Dept.
Leo. L. Sexton.....Capt. Med. Corps
Rudolph W. Benz.....Captain Med. Corps
J. D. Dougherty.....Capt. and Aide to Gov.
H. Van Gieson.....Capt. Q. M. Corps

Department of Judiciary.

SUPREME COURT.

Chief Justice.....Hon. A. G. M. Roberts
Associate Justice.....Hon. E. M. Watson
Associate Justice.....Hon. R. P. Quarles

CIRCUIT COURTS.

First Judge 1st Circuit, Oahu.....
.....Hon. C. W. Ashford
Second Judge 1st Circuit, Oahu.....
.....Hon. W. L. Whitney
Third Judge 1st Circuit, Oahu.....
.....Hon. T. B. Stuart
Second Circuit, Maui.....Hon. W. E. Edin-
Third Circuit, Hawaii.....
.....Hon. J. A. Matthewman
Fourth Circuit, Hawaii.....Hon. C. F. Parsons
Fifth Circuit, Kauai.....Hon. Lyle A. Dicker

CLERKS OF COURTS.

Clerk Supreme Court.....J. A. Thompson
Assist. Clerk, Supreme Court.....Robt. Parker, Jr.
Stenographer, Supreme Court.....Miss Kate Kelly
Bailiff and Librarian Supreme Court.....
.....J. M. Ulanahela
Copyists.....Wm. Hoopai, Edith Mossman

Circuit Court, First Circuit.

Chief Clerk and Cashier.....Henry Smith
Assistant Clerk.....Jno. A. Dominis
Clerks, 1st Judge.....H. Ashford, J. Cullen
Clerks, 2nd Judge.....Jno. Marcellino, A. K. Aona
Clerks, 3rd Judge.....C. D. Prince
Stenographers.....
J. L. Horner, H. R. Jordan, J. W. Jones
Clerk Second Circuit, Maui.....E. H. Hart
Clerk, Third Circuit, Hawaii.....E. M. Miller
Clerk Fourth Circuit, Hawaii.....
.....A. S. Le B. Gurney
W. Ragsdale, Deputy Clerk.
Clerk Fifth Circuit, Kauai.....D. Wm. Dean

COURT INTERPRETERS.

Hawaiian.....C. L. Hopkins, C. A. K. Hook
Japanese.....Chester Day
Chinese.....Sai Kan Lee

DISTRICT MAGISTRATES.

Oahu.

Jas. M. Monsarrat.....	Honolulu
Alexr. D. Larnach, Second.....	Honolulu
S. Hookano.....	Ewa
W. D. Holt.....	Waianae
L. B. Nainoa.....	Koolauloa
A. S. Mahaulu.....	Waialua
E. Hore, Second.....	Waialua
E. P. Aikue.....	Koolaupoko
Henry Cobb Adams, Second.....	Koolaupoko

Maui.

W. A. McKay.....	Wailuku
John Brown, Jr.....	Lahaina
Guy S. Goodness.....	Makawao
Edward Wilcox.....	Second Makawao
D. K. Wailehua.....	Hana
J. K. Piimanu.....	Second Hana
M. C. Conradt.....	Molokai
M. K. Makaena.....	Halawao
J. D. McVeigh.....	Second Kalawao
S. Kahoolahalala.....	Second Lahaina

Hawaii.

Wm. S. Wise.....	Hilo
W. H. Smith (second).....	Hilo
T. E. M. Osorio.....	North Hilo
R. H. Atkins.....	North Kohala
Thos. Nakanelua.....	South Kohala
Henry Hall.....	Hamakua
M. S. Botelho, Second.....	Hamakua
Jos. S. Ferry.....	Puna
S. H. Haahoe, Second.....	Puna
Walter H. Hayselden.....	Kau
Chas. H. White, Second.....	Kau
J. L. Kaulukou.....	North Kona
Robt. Makahalupa.....	South Kona

Kauai.

Chas. S. Dole.....	Lihue
Jas. H. K. Kaiwi, Second.....	Lihue
D. K. Kapahee.....	Koloa
Wm. Schimmelfening, Second.....	Koloa
Wm. Huddy.....	Hanalei
C. B. Hofgaard.....	Waimea
J. A. Akina, Second.....	Waimea
R. Puuki.....	Kawaihau

COMPILATION COMMISSION.

Chairman.....	A. G. M. Robertson
Members.....	A. A. Wilder, C. F. Clemons

DEPARTMENT OF SECRETARY.

Secretary.....	W. W. Thayer
Chief Clerk of Department.....	Eben Cushingham
Chris. Holt, R. S. Lono.....	Clerks

FOREIGN REPRESENTATIVES.

Portugal—Consul General.....	
Italy.....	Senhor A. Cunha Pessan
Italy—Consul—F. A. Schaefer (Dean of the Consular Corps).	
Austria Hungary—Consul.....	H. P. F. Schultze
Netherlands.....	H. M. von Holt
Norway—Consul.....	L. M. Vetlesen
Denmark.....	
Germany.....	C. J. Hedemann
Mexico—Consul.....	Geo. Rodiek
Peru.....	W. Lanz
Chili—Consul.....	Bruce Cartwright, Jr.
	J. W. Waldron

Great Britain—Consul.....	E. L. S. Gordon
Belgium—Vice-Consul.....	R. F. Lange
Sweden—Consul.....	Geo. Rodiek
Spain—Consul.....	
Spain—Vice-Consul.....	T. F. Sedgwick
France—Consul.....	A. Marques
Japan—Consul-General.....	(Acting) H. Arita
China—Consul.....	Tsz-Ang Woo Huan
Panama—Consul.....	A. Marques
Russia—Vice-Consul.....	A. Marques
Panama—Consul, Hilo.....	R. T. Guard

DEPARTMENT OF ATTORNEY GENERAL.

Attorney-General.....	I. M. Stainback
1st Deputy Atty-General.....	A. G. Smith
2nd Deputy Atty-General.....	L. P. Scott
Clerk of Department.....	Saml. Upa
Stenographer.....	Miss E. Dwight
High Sheriff.....	Wm. P. Jarrett

BOARD OF PRISON INSPECTORS.

Oahu—J. W. Waldron, J. M. Dowsett, E. H. Wodehouse.	
Maui—Wm. Henning, J. N. K. Keola,	
W. Hawaii—L. S. Aungst, H. H. Renton, M. A. Malakaua.	
E. Hawaii—E. N. Holmes, C. E. Wright.	
Kauai—A. S. Wilcox, J. M. Lydgate.	

TREASURY DEPARTMENT.

Treasurer.....	C. J. McCarthy
Registrar of Public Accounts.....	H. C. Hapai
Deputy Regis. and Bookkeeper.....	T. Treadway
Corporation Clerk.....	Francis Evans
Stenographer and Typewriter.....	E. J. Treadway
Assistant Clerk.....	Saml. Kekumano

BUREAU OF CONVEYANCES.

Registrar of Conveyances.....	C. H. Merriam
Deputy Registrar.....	Isaac Ihihi
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Edward Hore.....	Waialua
J. Kekuku.....	Koolauloa
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G. H. Dunn.....	Lahaina
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Established 1913.

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Reorganized May 27, 1914.

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1st Vice-Pres.....W. R. Farrington
2nd Vice-Pres.....T. M. Church
Treasurer.....C. H. Cooke
Secretary.....Raymond C. Brown

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Bush, R. B. Booth, A. W. T. Bottomley,
A. N. Campbell, G. P. Denison, J. F. C.
Hagens, J. A. Kennedy, F. W. Mac-
farlane, L. T. Peck, G. S. Paxson, E. H.
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D. Tenney, H. F. Wichman.

MAUI CHAMBER OF COMMERCE.

Organized Jan. 29, 1910.

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Organized 1913.

President.....Dr. F. L. Putnam
Secretary.....L. D. Timmons
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HAWAII PROMOTION COMMITTEE.

Representing the Territory of Hawaii and
Chamber of Commerce.

Organized 1903.

E. A. Berndt, Chairman; Ed. Towse, Vice
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McInerney.
H. P. Wood.....Secretary and Director
B. von Damm.....Treasurer

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CHANGE.

Organized August 8, 1898.

President.....A. J. Campbell
Vice-President.....E. C. Dunsenber
Secretary.....H. C. Carter
Treasurer.....Bishop Trust Co.

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Re-organized Nov. 18, 1895.

President.....J. M. Dowsett
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Secretary and Treasurer.....W. O. Smith
Assistant Sec.-Treas.....L. J. Warren
Auditor.....J. W. Waldron
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HAWAIIAN ENTOMOLOGICAL SOCIETY.

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Secretary and Treasurer.....	C. E. Pemberton
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Editor of Proceedings.....	O. H. Swezey

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Treasurer.....	A. W. T. Bottomley
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TERRITORIAL LIBRARY.**HONOLULU LIBRARY ASSOCIATION.**

Organized March. Incorporated June 24, 1879.

President.....	Prof. M. M. Scott
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Organized May 24, 1895.

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 Vice-President.....Dr. H. P. Nottage
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Organized June 17, 1895.

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 Board of Managers—A. F. Judd, L. A. Thurston, F. R. Nugent.

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 Recording Secretary...Miss Agnes E. Judd
 Corresponding Secretary..Miss Abbie M. Dow
 Treasurer.....Miss Charlotte Hall
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Originally Organized 1823.

Constitution revised 1863. Annual Meeting
 June.

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 Vice-President.....A. C. Alexander
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Organized 1871.

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Organized 1851. Annual Meeting in June.

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Organized 1869. Annual Meeting in April

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 Men's Secretary.....A. E. Larimer
 Religious Work Secretary.....L. R. Killam
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 Mrs. A. F. Cooke.
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 Director Phys. Education.....Miss L. Andersen
 Economic Secretary.....Miss C. C. Varney
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Organized December, 1884.

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 Vice-Presidents—Mrs. Ida Weedon, Mrs.
 A. A. Ebersole.
 Recording Secretary.....Miss Florence Yarrow
 Cor. Secretary.....Mrs. E. W. Jordan
 Treasurer.....Mrs. L. B. Coan

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Organized 1895.

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 Vice-Presidents—Mrs. L. T. Peck, Mrs. A.
 Lewis, Jr., Mrs. S. B. Dole.

Recording Secretary.....Miss Nora Sturgeon
 Treasurer.....Mrs. F. M. Swarzy
 Auditor.....D. W. Anderson

ASSOCIATED CHARITIES.

Organized June 7, 1899.

President.....S. B. Dole
 1st Vice-President.....W. D. Westervelt
 2nd Vice-President.....J. R. Galt
 Secretary.....Mrs. J. M. Whitney
 Treasurer.....P. H. Deverill
 Manager.....Mrs. E. W. Jordan

STRANGERS' FRIEND SOCIETY.

Organized 1852. Annual Meeting in June.

President.....Mrs. A. Fuller
 Vice-Presidents—Mrs. E. F. Bishop, Mrs. S.
 B. Dole.
 Secretary.....Mrs. S. M. Damon
 Treasurer.....Mrs. E. W. Jordan
 Auditor.....E. W. Jordan
 Directress.....Mrs. E. B. Waterhouse

BRITISH ASSOCIATION OF HAWAII.

Organized 1869.

President (Ex-officio).....H. B. M's. Consul
 Secretary.....D. W. Anderson
 Treasurer.....
 Relief Committee—G. E. Ewart, J. C. Cook,
 W. H. Baird, F. Harrison and R. Ander-
 son, with the above officers.

GERMAN BENEVOLENT SOCIETY.

Organized August 22, 1856.

President.....F. A. Schaefer
 Vice-President.....Geo. Rodiek
 Secretary.....John F. Eckardt
 Treasurer.....B. von Damm
 Auditor.....H. Hugo

HAWAIIAN RELIEF SOCIETY.

Organized 1895.

President.....Mrs. C. S. Holloway
 Secretary.....Mrs. E. S. Cunha
 Treasurer.....Mrs. F. W. Macfarlane

PORTUGUESE CHARITABLE SOCIETY.

Organized Sept. 1, 1902.

President.....J. P. Rodriguez
 Vice-President.....J. Madeira
 Secretary.....A. H. R. Vieira
 Treasurer.....J. D. Marques

CATHOLIC ORPHANAGE, KALIHI.

Established 1909.

Mother Mary Lawrence in charge.

HAWAIIAN HUMANE SOCIETY.

President.....Mrs. L. L. McCandless
 Vice-Presidents—Mrs. S. M. Damon, Mrs. E.
 P. Low, Mrs. W. R. Castle, Mrs. A. Hane-
 berg, Mrs. C. S. Holloway.

Secretary.....Miss Nora Swanzy
 Treasurer.....Mrs. J. S. Emerson
 Auditor.....H. M. Dowsett
 Humane Officer.....Miss Lucy Ward

OAHU CEMETERY ASSOCIATION.

President.....Geo. R. Carter
 Vice-President.....F. J. Lowrey
 Secretary and Treasurer.....J. R. Galt

ANTI-SALOON LEAGUE OF HAWAII.

Organized March 4, 1901.

Superintendent.....John W. Wadman
 President.....D. C. Peters
 Vice-President.....W. D. Westervelt
 Vice-Pres. Honorary.....Mrs. J. M. Whitney
 Secretary.....Geo. W. Paty
 Treasurer.....C. H. Dickey

THE OUTDOOR CIRCLE.

(For the beautifying of Honolulu.)

President.....Mrs. F. J. Lowrey
 Vice-President.....Mrs. H. Waterhouse
 Sec.Treas.....Mrs. W. L. Moore

PACIFIC CLUB.

Organized 1852. Premises on Alakea Street,
 two doors below Beretania.

President.....Richard Ivers
 Vice-President.....Dr. C. B. Cooper
 Secretary.....A. L. C. Atkinson
 Treasurer.....A. J. Campbell
 Governors—E. F. Bishop, J. F. C. Hagens,
 C. H. Olson, G. C. Potter, P. Muhlendorf,
 with the above officers, comprise the
 Board.

UNIVERSITY CLUB.

Organized 1905.

President.....A. F. Judd
 Vice-President.....E. A. Mott-Smith
 Secretary.....E. W. Sutton
 Treasurer.....A. M. Nowell
 Auditor.....M. M. Graham
 Governors—Admiral C. B. T. Moore, Dr. H.
 V. Murray, Gen. C. Edwards.

CORNELL CLUB OF HAWAII.

President.....Prof. A. L. Andrews
 Vice-President.....
 Secretary-Treasurer.....Dr. L. E. Case

HARVARD CLUB OF HAWAII.

Jas. D. Dole, '99.....President
 A. F. Griffiths, '99.....Secretary-Treasurer
 Executive Committee—With the above, Dr.
 F. F. Hedemann '03, E. A. Mott-Smith
 '95, E. A. Knudsen '94.

COMMERCIAL CLUB OF HONOLULU.

Organized Aug. 30, 1906.

President.....Fred. C. Smith
 Vice-President.....A. Waterhouse
 Secretary.....L. M. Judd
 Treasurer.....Fred Hons

SCOTTISH THISTLE CLUB.

Organized April 27, 1891.

Chief.....Peter Tosh
 Chieftain.....M. M. Graham
 Secretary.....D. M. Thompson
 Treasurer.....J. H. Fiddes
 Master-at-Arms.....P. Higgins

BUCKEYE CLUB.

Organized 1904.

President.....Guy H. Buttolph
 Vice-President.....Miss H. Hitchcock
 Secretary.....Mrs. Ida Weedon
 Treasurer.....Dr. H. Bicknell

COUNTRY CLUB.

Organized 1906.

President.....Geo. H. Angus
 1st Vice-President.....E. W. Sutton
 2nd Vice-President.....E. I. Spalding
 Secretary.....G. H. Buttolph
 Treasurer.....J. O. Young
 Directors—W. Simpson, G. H. Buttolph, G. H.
 Angus, Dr. A. C. Wall, H. H. Walker, J.
 D. McInerny, E. I. Spalding, J. O. Young,
 E. W. Sutton.

HAWAIIAN ENGINEERING ASSOCIATION.

Organized

Chairman.....R. Renton Hind
 Vice-Chairman.....W. G. Hall
 Secretary.....F. O. Boyer
 Treasurer.....Irwin Spalding

TRAIL AND MOUNTAIN CLUB.

Organized April 5, 1910.

President.....W. R. Castle
 Vice-President.....L. A. Thurston
 Recording Secretary.....Irwin Spalding
 Corresponding Sec.....Alex. Hume Ford
 Treasurer.....Waterhouse Trust Co.

OUTRIGGER CLUB.

Organized May, 1908.

President.....Guy H. Tuttle
 Vice-President.....A. M. Nowell
 Secretary.....J. A. Beavens
 Treasurer.....H. B. Campbell

HUI NALU (Surf Club).

Organized 1911.

President.....Wm. T. Rawlins
 Vice-President.....Al. Castle
 Secretary.....E. H. Steel
 Treasurer.....Alex. May
 Commodore.....E. K. Miller
 Captain.....Duke Kahanamoku

HAWAII YACHT CLUB.

Organized Oct., 1901.

Commodore.....F. M. Hatch
 Vice-Commodore.....F. B. Smith
 Secretary and Treasurer.....L. M. Nettleson

Measurer O. L. Sorenson
 Captain C. T. Wilder

MYRTLE BOAT CLUB.

Organized Feb. 5, 1883.

President F. Schnack
 Vice-President G. E. Schaefer
 Secretary A. J. Porter
 Treasurer E. Hutchins
 Captain Geo. Crozier

HEALANI YACHT AND BOAT CLUB.

Incorporated Dec., 1894.

President Jas. E. Jaeger
 Vice-President A. T. Longley
 Secretary A. R. L. Rowat
 Treasurer H. Lempke
 Captain Lawrence Cunha
 Vice-Captain G. C. Bechert
 Commodore L. M. Hale
 Vice-Commodore Geo. McKinley

HAWAIIAN ROWING ASSOCIATION.

President G. E. Schaefer
 Vice-President A. B. Kroll
 Secretary-Treasurer J. M. Phillips

HAWAIIAN ASSOCIATION OF THE A. A. U.
Organized 1912.

President W. T. Rawlins
 Vice-President A. L. Longley
 Secretary-Treasurer Lorrin Andrews
 The Association comprises one delegate from each of the fifteen local athletic clubs.

AD CLUB.

President W. R. Farrington
 Vice-President G. B. Curtis
 Secretary H. L. Strange
 Treasurer C. R. Frazier

OAHU COLLEGE.

Punahou Academy.

Arthur F. Griffiths, A. M.—President.
 Susan G. Clark—Latin and Greek.
 Levi C. Howland—Head of Commercial Department, Asst. Business Agent.
 Willbur J. MacNeil—Science.
 Antoinette J. Foster—English.
 Charlotte P. Dodge—History.
 Margaret E. Clarke—Head of Music Department (on leave).
 Eda M. Schmutzler—French.
 Chas. P. Schmutzler—German, Latin.
 Ernest T. Chase, Vice-Principal—Mathematics.
 Daniel J. Ricker—Mathematics.
 Carl Miltner—Violin.
 Helen G. Caldwell, Voice and Acting Head of Music Department.
 Clara M. Brawthen—Commercial.
 Ethel M. Damon—French, History, Latin.
 Agnes P. Driver—Physical Instruction of Girls.
 Marjorie Gilman—Assistant.
 Frank E. Midkiff—Mathematics, English and Director of Boarding Department.
 Lillian G. Brawthen—Piano.

Catherine E. B. Cox—Oral Expression, Dramatics.

Lester G. French—Vocal Music, Drawing.
 Kathleen McNutt—Drawing.
 Olmer P. Gump—English.
 Maud Taylor—Matron.
 Mary L. Bettis—Assistant Matron.
 Mabel Hawthorne—Librarian.
 Avis Yates—Assistant Librarian.
 Jonathan Shaw—Business Agent.
 Frank Barwick—Superintendent of Grounds.
 H. G. Wooten—Engineer.
 Hazel Buckland—Secretary.
 F. F. Hedemann, M. D.—Medical Examiner.

PUNAHOU PREPARATORY.

Charles T. Fitts—Principal.
 Mary P. Winne—Vice-Principal; Second Grade.
 Claire H. Uecke—First Grade.
 Emma Barnhard—Intermediate.
 Sarah Mulnix, Mabel J. Long—Third Grade.
 Mary A. Fowler, Juanita H. Day—Fourth Grade.
 Blanche Folsom, Hope Y. Lytle—Fifth Grade.
 Anna F. Johnson, Frederica B. Davis—Sixth Grade.
 Elizabeth B. MacNeil, Emma G. Middleditch—Seventh Grade.
 Zella M. Breckenridge, Evangeline Holmes—Eighth Grade.
 Ethel M. Damon—German.
 Agnes P. Driver—Physical Instruction.
 Lester G. French, Jesse Buchanan—School Singing.
 Kathleen McNutt—Drawing.
 Ethel V. Cosgrove—Office Assistant.

REGENTS COLLEGE OF HAWAII.

W. R. Farrington President
 F. L. Waldron Treasurer
 C. R. Hemenway, A. Gartley, Mrs. C. W. Ashford.

College of Hawaii Faculty.

Arthur L. Dean, M.S.A.—President.
 John W. Gilmore, M.S.A.—President (resigned).
 John S. Donaghho, A.B.—Acting Dean, Professor of Mathematics and Astronomy.
 John M. Young, B.S., M.M.E.—Professor of Engineering and Engineer for the College.
 William A. Bryan, B.S.—Professor of Zoology.
 Arthur R. Keller, C.E., LL.B.—Professor of Civil Engineering.
 Frank T. Dillingham, B.S.—Professor of Chemistry.
 Howard M. Ballou, A.B.—Professor of Physics
 Arthur L. Andrews, M.L., Ph.D.—Professor of English.
 Frederick G. Krauss—Professor of Agronomy.
 Vaughan MacCaughy, B.S.A.—Professor of Botany and Horticulture.
 J. F. Illingworth, Ph.D.—Professor of Entomology.
 Minnie E. Chipman—Assistant Professor of Ceramics.
 Pearson—Assistant Professor of Domestic Science.
 Mildred M. Yoder, Ph.B.—Instructor in History and Economics.
 John T. McTaggart—Instructor in Shop Work.
 Mary Heuer—Instructor in French.
 Elizabeth L. Bryan, Sc.D.—Librarian.
 Joseph F. C. Rock—Botanist.

KAWAIAHAO GIRLS' SEMINARY.

Mabel E. Boshier—Principal.
 Mary F. Kinney, Helen F. Haynes—Sixth,
 Seventh and Eighth Grades.
 Eva L. Pitts—Fourth and Fifth Grades.
 Roselle F. Faast—First, Second and Third
 Grades.
 Edith V. Currie—Domestic Art; Lingtai Soon,
 Assistant.
 Ethel F. Mills—Vocal and Instru. Music.
 Martha Warne—Nursing, Physiology, Hygiene.
 Louise M. Larrabee—Domestic Science, Mat-
 ron; Esther Kalino, Assistant.
 Tsuru Kishimoto, Japanese, and Wai Hong
 Loo, Chinese Classes.
 Syu Yun Ching—Office Assistant.
 Dr. A. F. Jackson—School Physician.

MILLS INSTITUTE.

Rev. W. P. Ferguson, Ph.D.—Principal.
 Rev. John P. Erdman, B.A.—Dean of Depart-
 ment of Christian Ministry.
 Rev. R. B. Whitaker—Chaplain.
 Mrs. Ella Peabody Osborne—House Mother.
 Robert Hart Wallin, M.Acct.—Director Comml.
 Dept., Registrar and Bookkeeper.
 Wm. H. Meinecke—Director Agricultural
 Dept.
 Messrs. M. L. Copeland, M. G. Greenly, C. H.
 Hogan, J. F. Nelson, Jno. F. Stone, E.
 H. Yates.
 Misses E. J. Jones, J. Peabody, M. E. Stam-
 baugh.
 Mr. Tong Kwan Yan—Chinese.
 Mr. Yasaburo Sakai—Japanese.
 Mr. Cheai Myeng Han—Korean.

THE KAMEHAMEHA SCHOOLS.

Faculties.

Ernest C. Webster—President.
 Rev. John L. Hopwood—Chaplain.
 Alfred B. Sill—Registrar and Bus. Agent.
 Miss Z. M. Hummel—Bookkeeper.
 Dr. James R. Judd—Physician.

Manual Department.

Ulrick Thompson—Vice-President, Science.
 Fred L. Griffin—Superintendent Mechanical
 Instruction.
 Mrs. Alice M. Bradstreet—Matron.
 Chester G. Livingston—Mechanical Drawing.
 Miss Minnie H. Armstrong—English.
 Earle G. Bartlett—Mathematics and Evening
 Classes.
 Nelson G. Smith—Painter.
 John Mengel—Blacksmithing and Forging.
 Milton E. Crossman—Woodworking.
 Joseph T. Boyd—Machinist.
 George A. Andrus—Mathematics and Music.
 Edwin E. Baty—Electrician.
 George Benjamin—Assistant Woodworking.
 Ralph J. Borden—Agriculture.
 James D. French—Agriculture.
 Miss Della Sturm—Nurse.
 Miss Emma Winslow—English.
 First Lieut. Alfred J. Booth—Commandant.

Preparatory Department.

Miss Alice E. Knapp—Principal.
 Miss Maude Post—Primary.
 Miss Nevada Moore—Manual Training.
 Miss Mae Woodward—Matron.

Miss Agnes Hill—Grades I and II.
 Miss Anna Roat—Grades III and IV.
 Miss Anne Mulheron—Office and Library Asst.
 Miss Julia Coleman—Office and Dormitory
 Assistant.
 Miss Lucilla Kamakawiwoole—Matron's Asst.
 Mrs. Anna Sahr—Matron's Assistant.
 Miss Margaret McGowan—Hospital Assistant.
 Adolph G. Hottendorf—General Assistant.

School for Girls.

Miss Frances Lemmon—Acting Principal.
 Miss Harriet McCracken—Matron.
 Miss Carolyn Church—Domestic Art, Sewing.
 Miss Anna Reid—Language, English, Litera-
 ture.
 Miss Katherine Burgner—Geography, Nature
 Study.
 Miss Lydia Williamson—Drawing, Arts and
 Crafts.
 Miss Lydia Aholo—Stenography and Typewrit-
 ing.
 Miss Edith Gatfield—Music.
 Miss Ora Saunders—Nurse, Physiology.
 Miss Florence Smith—Dressmaking.
 Mrs. Gertrude Winterfield—Mathematics and
 Civics.
 Miss Sue Markley—History, Reading.
 Miss Irene Sylva—Office Assistant.
 Miss Emma Napoleon—Matron's Assistant.
 Miss Katie Steward—Matron's Assistant.
 Miss Eliza Nainoa, Matron's Assistant.

HONOLULU (STEAM) FIRE DEPART-
MENT.

Originally organized 1851, and conducted as
 volunteers till March 1, 1893, when it was
 changed to a paid department.

Chief Engineer—Chas. Thurston.
 Asst. Engineer—Wm. Blaisdell.
 Honolulu Engine No. 1—Location, Central Sta-
 tion, cor. Fort and Beretania streets.
 Mechanic Engine No. 2—Location, Central
 Station, cor. Fort and Beretania streets.
 Chemical Apparatus No. 3—Location, Central
 Station, cor. Fort and Beretania streets.
 Protection Hook and Ladder Co. No. 1—Loca-
 tion, Central Station, cor. Fort and
 Beretania streets.
 Engine Co. No. 4—Location cor. Wilder
 avenue and Piikoi street.
 Engine Co. No. 5—Location King street, near
 Reform School.
 Engine Co. No. 6—Location Kaimuki.

PRINCIPAL PUBLICATIONS.

The Hawaiian Gazette, issued semi-weekly by
 the Hawaiian Gazette Co., Ltd., on Tues-
 days and Fridays. R. O. Matheson,
 Editor.

Sunday Advertiser, issued every Sunday
 morning by the Hawaiian Gazette Co.,
 Ltd. R. O. Matheson, Editor.

The Daily Pacific Commercial Advertiser, is-
 sued by the Hawaiian Gazette Co. every
 morning (except Sunday). R. O. Mathe-
 son, Editor.

The Honolulu Star-Bulletin, issued every even-
 ing (except Sundays), by the Honolulu
 Star-Bulletin, Ltd. Riley H. Allen, Editor.
 Semi-weekly issued on Mondays and
 Thursdays.

The Guide, issued every Tuesday and Friday
 morning by the Guide Pub. Co.

The Friend, Organ of the Hawaiian Board, issued on the first of each month. Rev. Doremus Scudder, Editor.

The Hawaiian Church Chronicle, issued on the first Saturday of every month. Rt. Rev. H. B. Restarick, Editor.

The Paradise of the Pacific, issued monthly. Mrs. E. A. Langton-Boyle, Publisher.

The Mid-Pacific Monthly, an illustrated descriptive magazine. Alex. Hume Ford, Editor and Publisher.

The Hawaiian Forester and Agriculturist, issued monthly under direction of Board of Com. Agr. and Forestry. Daniel Logan, Editor.

Tropic Topics, issued weekly on Fridays. H. M. Ayers, Editor and Publisher.

The Kuokoa (native), weekly, issued every Friday morning by the Hawaiian Gazette Co., Ltd. Solomon Hanohano, Editor.

Aloha Aina (native) issued every Saturday. J. T. Ryan, Editor.

Ka Holomoua (native), issued each Saturday. G. K. Poepoe, Editor.

O Luso (Portuguese), issued weekly on Saturdays. M. G. Santos, Editor.

Chee Yow Shin Bo (The Liberty News), tri-weekly, Chinese.

Sun Chung Kwock Bo, tri-weekly, Chinese.

Hawaii Shimpo, issued daily in Japanese. S. Sheba, Proprietor.

Hilo Tribune, issued weekly on Saturdays by The Tribune Pub. Co., Hilo. Geo. Henshaw, Editor.

The Hawaii Herald, issued weekly at Hilo on Thursdays by the Herald Pub. Co. V. L. Stevenson, Editor.

The Kohala Midget, issued each Thursday, at Kohala. Dr. J. F. Cowan, Editor.

The Maui News, issued weekly at Wailuku, Maui. V. L. Stevenson, Editor and Manager.

The Garden Island, issued weekly at Lihue, Kauai. L. D. Timmons, Editor.

Hoku o Hawaii, issued on Friday of each week, at Hilo. Rev. S. L. Desha, Editor.

THE HAWAIIAN ANNUAL, issued the latter part of December for the following year. Thos. G. Thrum, Editor and Publisher.

HONOLULU LODGES, ETC.

Oceanic Lodge No. 371, F. & A. M.; meets on the last Monday in each month in Masonic Hall.

Hawaiian Lodge, No. 21, F. & A. M.; meets in its Hall, Masonic Temple, corner Hotel and Alakea streets, on the first Monday in each month.

Honolulu Chapter, No. 1, R. A. M.; meets in Masonic Hall on the third Thursday of each month.

Honolulu Commandery, No. 1, Knights Templar; meets in Masonic Hall on second Thursday of each month.

Mystic Shrine, Aloha Temple. No stated time of meeting. Meets at Masonic Hall.

Kamehameha Lodge of Perfection, No. 1, A. & A. S. R.; meets in Masonic Hall on the fourth Thursday of each month.

Nuuanu Chapter of Rose Croix, No. 1, A. & A. S. R.; meets in Masonic Hall on the first Thursday in the month.

Alexander Liholiho Council, No. 1, of Kadosh; meets on the third Monday of alternate months from February.

Honolulu Lodge, No. 409, F. & A. M.; meets at Masonic Hall every second Monday of the month.

Leahi Chapter, No. 2, Order of the Eastern Star; meets on third Monday of each month in Masonic Hall.

Lei Aloha Chapter, No. 3, Order of the Eastern Star; meets on second Saturday of each month in Masonic Temple.

Harmony Chapter, No. 4, Order of the Eastern Star, meets on third Saturday of each month in Masonic Temple, at 7:30 p. m.

Excelsior Lodge, No. 1, I. O. O. F.; meets at the hall in Odd Fellows' Building, on Fort St., every Tuesday evening.

Harmony Lodge, No. 2, I. O. O. F.; meets each Monday evening in Odd Fellows' Building, Fort street.

Pacific Degree Lodge, No. 1, Daughters of Rebekah; meets in Odd Fellows' Building, Fort street, second and fourth Thursdays of each month.

Olive Branch Rebekah, No. 2, I. O. O. F.; meets first and third Thursdays each month in Odd Fellows' Building.

Polynesian Encampment, No. 1, I. O. O. F.; meets in Odd Fellows' Building, Fort street, first and third Fridays of each month.

Canton Oahu, No. 1, P. M., I. O. O. F.; meets second Friday each month in Odd Fellows' Hall, Fort St.

Mystic Lodge, No. 2, K. of P.; meets every Friday evening at Pythian Hall, cor. Beretania and Fort streets.

Section N. 225—Endowment Rank, K. of P.; meets on the second Saturday of January, July and December in Pythian Hall, Honolulu Temple, No. 1. Rathbone Sisters; meets in Pythian Hall, first and third Tuesday evenings of each month.

Wm. McKinley Lodge, No. 8, K. of P.; meets first and third Tuesday evenings in Pythian Hall.

Hawaiian Tribe, No. 1, Improved Order of Red Men; meets on first and third Thursdays of each month at Odd Fellows' Hall.

Court Lunalilo No. 6600, A. O. of Foresters; meets at K. of P. Hall on first and third Wednesdays of each month.

Court Camoes No. 8110, A. O. F.; meets second and fourth Tuesday evening of month in San Antonio Hall.

Geo. W. de Long Post, No. 45, G. A. R.; meets the second Tuesday of each month at Odd Fellows' Building, Fort street.

Theo. Roosevelt Camp, No. 1, Dept. of Hawaii U. S. W. V.; first and third Saturdays, in their hall.

Geo. C. Wiltse Camp, Sons of Veterans; meets on third Tuesday of each month in San Antonio Hall.

Capt. Cook Lodge, No. 353, Order Sons of St. George; meets at Pythian Hall every Thursday evening.

Court Hawaii, No. 3769, Independent Order of Foresters, meets third, Monday of each month.

Damien Council, Young Men's Institute; meets second and fourth Wednesdays of each month at Catholic Mission Hall.

Honolulu Lodge, B. P. O. Elks, 616; meets every Friday evening in the Elks' Building, King street near Fort.

Honolulu Aerie, No. 140, Fraternal Order of Eagles, meets second and fourth Wednesdays each month in K. of P. Hall.

Honolulu Lodge, L. O. O. M., No. 800, meets weekly in Progress Block, Friday evenings.

American Association of Masters and Pilots of Steam Vessels, Honolulu Harbor, No. 54; meets first Sunday of each month at 7 p. m. in Odd Fellows' Hall.

Marine Engineers' Beneficial Association, No. 100; meets every second and fourth Monday nights at K. of P. Hall.

Kamehameha Lodge (native); meets last Thursday of each month in Odd Fellows' Hall.

Kauikaouli Lodge, No. 1 (native); meets on first and third Fridays each month in St. Antonio Hall.

PLACES OF WORSHIP.

Central Union Church, Congregational (Independent), corner Beretania and Richards streets; Rev. Doremus Scudder, D. D., pastor; Rev. A. A. Ebersole, assistant pastor. Services every Sunday at 11 a. m. and 7:30 p. m. Sunday school meets one hour before morning service. Prayer meeting Wednesday evenings at 7:30.

Palama Chapel, Rev. H. W. Chamberlain. Sunday school at 9:30 a. m. Gospel services at 7:30 p. m.

Methodist Episcopal Church, corner Beretania and Victoria streets. Rev. Edwin E. Brace, pastor. Sunday services 11 a. m. and 7:30 p. m. Sunday school meets at 10 a. m. Prayer meeting Wednesdays at 7:30 p. m.

The Christian Church, David Carey Peters, pastor. Sunday services at 11 a. m. and 7:30 p. m. temporarily at old Y. M. C. A. building, cor. Hotel and Alakea. Sunday school meets at 9:45 a. m. Prayer meeting Wednesday evenings, at 7:30.

Salvation Army, services held nightly at hall, Nuuanu street, with Sunday services at the usual hour.

Roman Catholic Church, Fort street, near Beretania; Rt. Rev. Libert Boeynaems, Bishop of Zeugma. Services every Sunday at 10 a. m. and 4:30 p. m. Low mass every day at 6 and 7 a. m. High mass Sundays and Saints' days at 10 a. m.

St. Andrew's Cathedral, Protestant Episcopal; entrance from Emma street, near Beretania. Rt. Rev. Henry Bond Restarick, Bishop of the Missionary District of Honolulu; Rev. Wm. Ault, Vicar. Holy Communion, 7; Sunday school, 10; morning prayer, litany and sermon, 11; Hawaiian service, 3:30; evening prayer and sermon, 7:30.

Chinese Congregation. Rev. Kong Yim Tet, Curate. Services on Sunday at 11 a. m. and 7:30 p. m. Evening prayer every Wednesday at 7 p. m.

St. Clement's Chapel, Punahou. Services on Sundays. Holy Communion, 7 a. m. Morning prayer, 11 a. m.; evening prayer, 7:30 p. m. Rev. John Osborne, rector.

First Church of Christ, Scientist, Fraternity Hall, Odd Fellows' building. Sunday services 11 a. m.

Christian Chinese Church, Fort street; Rev. Tse Kei Yuen, acting pastor. Services every Sunday at 10:30 a. m. and 7:30 p. m. Prayer meeting Wednesdays at 7:30 p. m.

German Lutheran Church, Beretania St.; Rev. F. Engelhardt, pastor. Services on Sunday at 11 a. m.; Sunday school at 10 a. m.

Portuguese (Protestant) Mission; Rev. A. V. Soares, pastor. Services every Sabbath at the usual hour. Sunday school at 3 p. m. Chapel situated corner of Punch-bowl and Miller streets.

Reorganized Church of Jesus Christ, G. J. Waller, pastor. Services in new chapel on King street near Thomas Square; Sunday school at 10 a. m.; preaching in Hawaiian at 11 a. m.; in English at 7:30 p. m.

Seventh Day Adventists. Rev. pastor. Chapel 767 Kinau street. Sabbath school Saturdays at 10 a. m.; preaching at 11. Wednesday prayer and missionary meeting at 7:30 p. m.

Japanese Union Church (connected with Hawaiian Board Missions); Rev. T. Hori, pastor. Hold services at 10 a. m. Preaching at 11 a. m. and 7:30 p. m. Sunday services. Prayer and praise meeting Wednesdays at 7 p. m.

Japanese Methodist Church, Rev. C. Nakamura, pastor. Hold services in chapel on River street, near St. Louis College.

Japanese Church, cor. Kinau and Pensacola Sts., Rev. T. Okumura, pastor; hold regular services at the usual hours.

Bishop Memorial Chapel, Kamehameha Schools, Rev. J. L. Hopwood, Chaplain. Morning services at 11.

NATIVE CHURCHES.

Kawaiahao Church, corner King and Punch-bowl streets. Rev. H. H. Parker, pastor. Services in Hawaiian every Sunday at 11 a. m. and 7:30 p. m. Sunday School at 10 a. m. Prayer meeting Wednesdays at 7:30 p. m.

Kaumakapili Church, King street, Palama. Rev. H. K. Poepoe, pastor. Sunday services at the usual hours.

COUNTY OFFICIALS.

1915.

CITY AND COUNTY OF HONOLULU.

Mayor.....John C. Lane
 Sheriff.....Chas. S. Rose
 Clerk.....D. Kalauokalani, Jr.
 Auditor.....Jas. Bicknell
 Treasurer.....D. L. Conkling
 City and County Attorney...John W. Cathcart
 Supervisors—Wm. Ahia, Chas. N. Arnold, Ben
 Hollinger, Robt. Horner, Wm. Larsen,
 Daniel Logan, J. C. Quinn.
 County Engineer.....Wm. A. Wall
 Chief Engineer Fire Dept.—Chas. H. Thurs-
 ton.
 Asst. Engineer Fire Dept.—Wm. Blaisdell.
 Supt. Electric Light Dept. and Police and Fire
 Alarm System—W. L. Frazee.
 Deputy County Attorney—P. L. Weaver.
 Prosecuting Attorney, Police Court—A. M.
 Brown.
 Bandmaster Hawaiian Band—Capt. Henry
 Berger.
 Supt. Kapiolani Park—.....

COUNTY OF MAUI.

Sheriff.....Clement Crowell
 Attorney.....Daniel H. Case
 Auditor.....Charles Wilcox
 Treasurer.....L. M. Baldwin

Clerk.....W. F. Kaee
 Supervisors—Wailuku, Chas. Lake.
 Lahaina, W. P. Haia.
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